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CYBER DEFENSE OPERATIONS

BASIC

SENIOR

MASTER

CAREER FIELD EDUCATION AND TRAINING PLAN

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CYBER DEFENSE
OPERATIONS AFSC 1D7XX/X
CAREER FIELD EDUCATION AND TRAINING PLAN

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PART I

Preface

1. The continuously evolving Cyberspace environment requires vision, preparation, and attention to ensure Airmen have the right knowledge, skills, abilities, and tools to deliver the Cyberspace capabilities to meet today's Air Force mission and to ensure we will rise to the challenge of tomorrow's highly competitive environment. The increased emphasis on Joint All Domain Command and Control (JADC2), Information Operations, keep pace with the speed of change. This Cyber Defense Operations Career Field Education and Training Plan (CFETP) identifies foundational life cycle education and training requirements, resources, and core task requirements for each specialty. The CFETP provides Airmen a clear career path and instills rigor in all aspects of career field training. It is a talent management tool used to ensure the USAF properly develops and manages the Airmen we need for the high-end fight. The CFETP enables Cyber Defense Operations Airmen to collaborate across cyber career fields and encourages Airmen to fully develop their tradecraft to adapt and accelerate change to best serve our Air Force, Combatant Commanders, and our Nation.

Note: Civilians occupying associated positions will use Part II to support duty position qualification training.

2. There are two parts of the Cyber Defense Operations CFETP. Part I describes the overall Air Force Specialty (AFS) management and description of the career path. Part II provides core tasks and reference materials.

2.1. Part I provides information for the management of the specialty family. Section A: explains how Cyber Defense Operations Airmen and their supervisors will use the plan; Section B: identifies career field progression, duties, responsibilities, training strategies, and career field paths; Section C: associates each level with specialty qualifications (knowledge, education, experience, training, and other); Section D: indicates resource constraints (e.g., funds, manpower, equipment, facilities); and Section E: identifies transition training guide requirements for SSgt through MSgt.

2.2. Part II includes the following: Section A: identifies the Specialty Training Standards (STS) the duties, tasks, Training References (TRs) to support core task training such as Air Education Training Command (AETC) training, wartime course and correspondence course requirements; Section B: contains the Course Objectives List (COL) and training standards supervisors will use to determine if Cyber Defense Operations Airmen satisfied training requirements; Section C: identifies support materials, e.g., Qualification Training Package (QTP); Section D: identifies a training course index which includes both mandatory and optional courses; and Section E: identifies MAJCOM-unique training requirements supervisors can use to determine additional training required for the associated qualification needs. At the unit level, supervisors and trainers will use Part II to identify, plan, and conduct training commensurate with the overall mission goals.

3. The CFETP is the overarching guide for the 1D7XX/X career field and provides the foundation for effective and efficient training for Cyber Defense Operations Airmen in each 1D7XX/X shred at the appropriate points in their careers. This plan enables the Air Force to train today's work force for tomorrow's technology.

Abbreviations/Terms Explained

This section provides a common understanding of the terms that apply to the 1D7XX/XCFETP.

Air Education and Training Command (AETC). Major Command (MAJCOM) responsible for the recruiting, training, and education of Air Force personnel. AETC also provides pre-commissioning, professional military, and continuing education.

AETC Training Manager (TM). An instructional systems specialist who serves as the liaison between the schoolhouse, training pipeline managers, training requirements quota managers, Numbered Air Force, and MAJCOM training functions. Manages training resources and student production.

Air Force Career Field Manager (AFCFM). The career field manager is appointed by the functional manager. Enlisted career field managers are E-9s. The CFM provides policy, guidance and oversight for career field management, education, and training. The CFM ensures assigned Airmen are trained IAW Air Force specialty standards and are properly utilized to support Air Force mission requirements. (DAFI 36-2670 *Total Force Development* para. 1.2.10)

Air Force Enlisted Classification Directory (AFECD). The official directory for all military enlisted classification descriptions, codes, and identifiers. Establishes the occupational structure of the Air Force enlisted force. The occupational structure is flexible to permit enlisted personnel to specialize and develop their skills and abilities while allowing the Air Force to meet changing mission requirements. Individual enlisted personnel have a joint responsibility with commanders and supervisors at all levels to fully develop their abilities consistent with Air Force needs and within the established patterns of specialization.

Air Force Job Qualification Standard (AFJQS). A comprehensive task list that describes a particular job type or duty position. Supervisors use the AFJQS to document task qualification. The tasks on AFJQSs are common to all persons serving in the described duty position.

Air Force Manpower Analysis Agency (AFMAA). AFMAA is organized to support the Air Force, MAJCOMs, and Commanders through the employment of management consultant services. AFMAA provides specialized management engineering services for the proper determination of manpower resources across the Air Force enterprise and the Department of Defense. Additionally, AFMAA collaborates with the Under Secretary of the Air Force, Management (SAF/MG), to engage with Air Force customers to promote the Air Force's Continuous Process Improvement program and assist commanders in achieving operational excellence.

Air Force Manpower Document (AFMD). AFMDs are a special publication type and provide the missions for the Air Force's major subdivisions who report directly to Headquarters Air Force (Major Commands, Direct Reporting Units and field operating agencies). Headquarters Air Force offices of primary responsibility use these guidelines to develop AFMDs for each Major Command, Direct Reporting Unit, and Field Operating Agency. The Vice Chief of Staff of the Air Force approves AFMDs for Major Commands and Direct Reporting Units. The appropriate Headquarters Air Force two-digit official (e.g., SAF/IG, AF/A3) approves AFMDs for their field operating agencies.

Air Force Qualification Training Package (AFQTP). An instructional course designed for use at the unit to qualify or aid qualification in a duty position, program, or on a piece of equipment. It may be printed, computer-based, or other audio visual media.

Air Force Specialty (AFS). A group of positions (with the same title and code) that require common qualifications.

Air University/Air Force Career Development Academy (AFCDA). An organization of Air Force Institute for Advanced Distributed Learning (AFIADL); provides access to the Extension Course Institute.

Career Field Education and Training Plan (CFETP). A comprehensive core training document that identifies: life-cycle education and training requirements, training support resources, and minimum core task requirements for a specialty. The CFETP aims to give personnel a clear path and instill a sense of industry in career field training. CFETPs are officially posted at https://www.e-publishing.af.mil/

Certification. A formal indication of an individual's ability to perform a task to required standards.

Certifying Official. A person assigned by the commander to determine an individual's ability to perform a task to required standards.

Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) Task Qualification Training (TQT). CBRNE TQT ensures personnel maintain proficiency in performing mission-critical tasks in a CBRNE environment. See AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations*, and AFI 10-2607, *Chemical, Biological, Radiological and Nuclear Survivability* for additional information/requirements. See Part II, Section A, Note 12 for implementation guidance.

Cloud Computing. The use of computing resources (hardware and software) delivered as a service over a network (typically the Internet).

Collaboration. Collaboration is the interaction among two or more individuals encompassing a variety of behaviors, including communication, information sharing, coordination, cooperation, problem-solving, and negotiation.

Collaborative Tools. Collaborative tools consist of various web-based technologies including advanced white boarding, groupware, and facilitation. Collaborative capabilities assist significantly with managing information throughout its life cycle and enable Air Force members to perform most office-oriented and operational communication tasks from their desktops.

Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR). Integrated systems of doctrine, procedures, organizational structures, personnel, equipment, facilities, and communications designed to support a commander's exercise of command and control through all phases of the operational continuum. C4 systems include base visual information support systems.

Communications-Computer Systems (C-CS). The facilities, equipment, communications, procedures, and personnel essential to a commander for planning, directing, and controlling operations of assigned forces pursuant to the missions assigned.

Computer Based Training (CBT). A forum for training in which the student learns via a computer terminal. It is an especially effective training tool that allows the students to practice applications while they learn.

Content Management. A set of processes and technologies supporting the evolutionary life cycle of digital information. This digital information is often referred to as content or, to be precise, digital content. Digital content may take the form of text, such as documents; multimedia files, such as audio or video files; or any other file type that follows a content life cycle that requires management.

Continuation Training. Advanced and qualification training that develops in-depth expertise within a specialty, broadens knowledge to new specialties, introduces new technologies and systems, develops analytical skills, or increases understanding of the relationship between cyber specialties.

Core Competency. An integrated bundle of expert knowledge and organizational skills inherent to a particular career field(s) which makes a disproportionate contribution to the success of providing the right skills needed for military operations, anywhere and anytime. It cannot be duplicated by any other organization and is critical for the future.

Core Tasks. Tasks that AFCFMs identify as a minimum qualification requirement for everyone within an AFSC, regardless of duty position. Core tasks may be specified for a particular skill level or in general across the AFSC. Guidance for using core tasks can be found in the applicable CFETP narrative.

Course Objective List (COL). A publication derived from initial/advanced skills Course Training Standard (CTS), identifying the tasks and knowledge requirements and respective standards provided to achieve a 3-skill level in this career field. Supervisors use the COL to assist in conducting graduate evaluations in accordance with DAFI 36-2670.

Course Resource Estimate (CRE). Well-developed, initial estimated costs associated with training.

Course Training Standard (CTS). A standard developed for all courses not governed by an STS, including specialized training packages and computer-based training courses.

Critical Tasks. Critical Tasks are tasks requiring specific training and certification above and beyond other tasks. Tasks may be defined as critical either through AFIs, Technical Orders, higher headquarters, or at any level in the unit. A task when not accomplished to the specified standard results in a serious adverse effect upon mission accomplishment, survivability or safety.

Cross Utilization Training. Provides units flexibility to train individuals to perform tasks not in their Primary AFSC to offset low skill level manning and enhance combat capability.

Cyber Fundamentals (CF). Course will contain 6 blocks of instruction to include: network fundamentals, routing and switching, appliances (servers), client systems, cyber security, and a capstone event. In Fiscal Year 2021 the Cyber Fundamentals course replaced the Information Technology Fundamentals course.

Cyberspace. A global domain within the information environment consisting of the interdependent network of information technology infrastructures, including the Internet, telecommunications networks, computer systems, and embedded processors and controllers.

Cyberspace Operations (CO). The employment of cyber capabilities where the primary purpose is to achieve objectives in or through cyberspace. Such operations include all applicable statues, but specifically offense and defensive cyber operations, and all actions taken to configure, secure, operate, maintain, and sustain the Department of Defense information networks (DoDIN).

Data Management. The process of planning, coordinating, sharing, and controlling organizations' data resources (AFPD 33-3, *Information Management*).

Direct Reporting Unit (DRU). Air Force subdivisions directly subordinate to the CSAF. A DRU performs a mission that does not fit into any of the MAJCOMs. A DRU has many of the same administrative and organizational responsibilities as a MAJCOM (Example of a DRU: USAF Academy).

Document Management. The process of managing documents through their life cycle, from inception through creation, review, storage, dissemination, and archival or deletion. Document management can also be a database system to organize stored documents, or a search mechanism to quickly find specific documents. (AFPD 33-3)

DoD Cyber Workforce Framework (DCWF). DCWF is derived from the National Initiative for Cybersecurity Education (NICE) Workforce Framework and Joint Cyberspace Training & Certification Standards. It provides a mechanism to categorize, organize, and describe cyber work and reflects collaborative efforts among government, private industry, and academia. It establishes a standard lexicon of cyber work roles, classifies the duties and skill requirements of Department cyber work force (military, civilian, and contractors), and is the foundation for developing qualification requirements. More info can be found at the following link: https://cyber.mil/cw/dcwf/

DoD Directive 8140.01 "Cyberspace Workforce Management." Authorizes establishment of a DoD Cyberspace Workforce Management Board (CWMB) as the governing body to ensure that the requirements of this issuance are met. Establishes the DoD Cyberspace Workforce Framework (DCWF) as the authoritative reference for the identification, tracking, and reporting of DoD cyberspace positions and foundation for developing enterprise baseline cyberspace workforce qualifications. Unifies the overall cyberspace workforce and establishes specific workforce elements (e.g., information technology (IT), cybersecurity, cyberspace effects, intelligence, and enablers) to align and manage the cyberspace workforce under the CWMB. In light of the issuance of DoD Directive 8140.01, there are ongoing changes to the qualification manuals for the cyber workforce. More info can be found at the following link: https://public.cyber.mil/cw/cwmp/cwmp-faqs/#toggle-id-1

DoD 8570.01-M "Information Assurance Training, Certification, and Workforce Management." Provides guidance and procedures for the training, certification, and management of the DoD Workforce conducting Information Assurance (IA) functions in assigned duty positions.

DoD Information Network (DoDIN). The globally interconnected, end-to-end set of information capabilities, associated processes, and personnel for collecting, processing, storing, disseminating, and managing information on demand to warfighters, policy makers, and support personnel. The DoDIN includes all owned and leased communications and computing systems and services, software (including applications), data, security services, and other associated services necessary to achieve Information Superiority. The DoDIN supports all Department of Defense, National Security, and related Intelligence Community missions and functions (strategic, operational, tactical, and business), in war and in peace. The DoDIN provides capabilities from all operating locations (bases, posts, camps, stations, facilities, mobile platforms, and deployed sites). The DoDIN provides interfaces to coalition, allied, and non- DOD users and systems.

Duty Position Tasks. The tasks assigned to an individual for the position currently held. These include, as a minimum, all core tasks that correspond to the duty position as directed by the AFCFM or MFM, and tasks assigned by the supervisor. (DAFI 36-2670)

Education and Training Course Announcement (ETCA). ETCA contains specific MAJCOM procedures, fund cite instructions, reporting instructions, and listings for those formal courses the MAJCOMs or FOAs conduct or manage. ETCA also contains courses the Air Force and reserve forces conduct or administer and serves as a reference for the Air Force, DoD, other military services, government agencies, and security assistance programs. Located at https://cs2.eis.af.mil/sites/app10-ETCA/SitePages/Home.aspx

Education with Industry (EWI). The EWI Program is a highly selective, competitive, career development program designed to improve the technical, professional, and management competencies of participating students by partnering with top tier public and private sector companies.

Enlisted Cyber Education Opportunities (ECEO). This program provides training to further develop NCOs technical education and skills to enhance mission capability for diverse career fields with positions requiring a higher degree of education. Courses can be found on MyVector.

Enlisted Specialty Training (EST). A mix of formal training (technical school) and informal training (on-the-job) to qualify and upgrade Airmen in each skill level of a specialty.

Enlisted Talent Marketplace (eTM). Is a "one-stop shop" location for Total Force Airmen and Guardians. A web-based assignment system platform focused on filling mission requirements, Talent Marketplace helps balance the art and science of assignment matching.

Enterprise. The entire range of communications/networking within garrison and tactical realms to include voice, video, data, imagery, and sensor.

Enterprise Information Management (EIM). Encompasses a set of strategies for organizational management of all aspects of enterprise data as information assets. The proper models, data architecture, application architecture, and integration vision enables using the "enterprise information asset" for strategic analysis, customer-centricity, performance and productivity analytics, and personalization, eventually providing a means for transitioning from an operational, line-of-business oriented application environment to an intelligent, learning, and agile organization.

Enterprise Information System (EIS). A portfolio of services that bring about Enterprise Information Management (EIM) capabilities.

Enterprise Information Technology. This includes all applicable statutes, specifically related to the designing, building, and provisioning of IT systems within the Department of the Air Force.

Exportable Training. Additional training via computer assisted, paper text, interactive video, or other necessary means to supplement training.

Field Operating Agency (FOA). FOAs are subdivisions of the Air Force directly subordinate to a headquarters US Air Force functional manager. An FOA performs field activities beyond the scope of any of the MAJCOMs. The activities are specialized or associated with an Air Force-wide mission (An example of a FOA is the Air Force Weather Agency).

Functional Authority (FA). Designated General Officers and members of the Senior Executive Service serving as Deputy Chiefs of Staff or Assistant Secretaries appointed by the Secretary of the Air Force to provide oversight and functional advisory services related to functional communities. Provide strategic oversight of force development to include determination and prioritization of functional community requirements to meet mission needs. **(T-1). (**DAFI 36-2670 para. 1.2.4)

Field Training. Technical, operator, and other training that either a field training detachment or field training team conducts at operational locations on specific systems and associated direct- support equipment for maintenance and aircrew personnel.

Functional Area Manager (FAM). The individual accountable for the management and oversight of all personnel and equipment within a specific functional area to support the operational planning and execution. Responsibilities include, but are not limited to; developing and reviewing policy; developing, managing, and maintaining Unit Type Codes (UTC); developing criteria for and monitoring readiness reporting; force posturing; and analysis. At each level of responsibility (Headquarters Air Force, MAJCOM, Air Component, FOA, DRU, and Unit), the FAM should be the most knowledgeable and experienced person a wide visibility of functional area readiness and capability issues.

Functional Manager (FM). RegAF general officer or senior executive service members, designated by the appropriate functional authorities, who provide day-to-day management over specific functional communities. While functional managers should maintain an institutional focus with regard to resource development and distribution, they are responsible for ensuring their specialties are equipped, developed, and sustained to provide Air Force capabilities. (DAFI 36-2670 para. 1.2.8)

Global Combat Support System - Air Force (GCSS-AF). An enterprise infrastructure program established to develop, integrate, and deploy combat support information capabilities. The mission of GCSS-AF is to provide timely, accurate, and trusted Agile Combat Support (ACS) information to Joint and Air Force commanders, their staffs, and ACS personnel at all ranks and echelons, with the appropriate level of security needed to execute the Air Force mission throughout the spectrum of military operations. GCSS-AF is the means by which ACS functional systems will be modernized and integrated to improve business processes supported on a single robust network-centric infrastructure. In addition to integrating combat support applications, GCSS-AF also provides core enterprise services such as a common user presentation through the AF Portal, Enterprise Information Management (Workflow, Records Management, Document Management, Knowledge Management, and Collaboration), and an enterprise data warehouse.

Go/No-Go. The "Go" is the stage at which a trainee has gained enough skill, knowledge, and experience to perform the tasks without supervision; meets the task standard. "No-Go" is the stage at which the trainee has not gained enough skill, knowledge, and experience to perform task without supervision; does not meet task standard.

High Performance Team (HPT). Consists of SMEs nominated by MFMs. They are responsible for innovating force development requirements for Total Force Cyber Airmen. The teams are charged with organizing, capturing, and creating viable learning resources including traditional text material, distance learning courses, instructional videos, and simulation programs. The HPTs also correlate to further the development of the Agile Airman Model (AAM). More information can be found on the HPT site found at: https://usaf.dps.mil/teams/12925/hpt/SitePages/Home.aspx /.

Individual Training Plan (ITP). Used in Training Business Area (TBA) to document training. The ITP reflects past and current qualifications and is used to determine training requirements. It is intended to be a complete history of past training and current qualifications. Supervisors will ensure all documentation is accurate and comprehensive.

Information Life Cycle. Typically characterized as creation or collection, processing, dissemination, use, storage, protection, and disposition. (DoDD 8000.01, *Management of the Department of Defense Information Enterprise*).

Information Management (IM). The planning, budgeting, manipulating, and controlling of information throughout its life cycle. Joint Publication 3-0, *Joint Operations,* further defines IM as the function of managing an organization's information resources by the handling of knowledge acquired by one or many different individuals and organizations in a way that optimizes access by all who have a share in that knowledge or a right to that knowledge.

Information Resources Management (IRM). The process of managing information resources to accomplish agency missions and to improve agency performance (e.g., the reduction of information collection burdens on the public).

Information Systems (IS). Set of information resources organized for the collection, storage, processing, maintenance, use, sharing, dissemination, disposition, display, or transmission of information. (DoDI 8500.01, *Cybersecurity*)

Information Technology/National Security Systems (IT/NSS). Any equipment, or interconnected system or subsystem of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by the Executive Agency. This includes equipment used by a DoD Component directly, or used by a contractor under a contract with the DoD Component, which requires the use of such equipment, or requires the use, to a significant extent, of such equipment in the performance of a service or the furnishing of a product. The term "IT" also includes computers, ancillary equipment, software, firmware, and similar procedures, services (including support services), and related resources. Notwithstanding the above, the term "IT" does not include any equipment acquired by a Federal contractor incidental to a Federal contract. The term "IT" includes National Security Systems (NSS).

Initial Qualification Training (IQT). IQT is training needed to qualify personnel for basic duties in an assigned position for a specific MDS, weapons system, function or activity, without regard for a unit's specific mission. Qualification evaluations consist of two structured phases, knowledge and task. The knowledge phase includes a series of examinations and the task phase includes a hands-on evaluation of job performance.

Initial Skills Training (IST). A formal school's course that results in an AFSC 3-skill level award for enlisted or mandatory upgrade training to qualified officers. (DAFI 36-2670)

Instructional System Design (ISD). A deliberate and orderly (but flexible) process for planning, developing, implementing, and managing instructional systems. It ensures personnel are taught in a cost efficient way to become educated on the knowledge, skills, and abilities essential for successful job performance.

Integrated Maintenance Data System (IMDS). Is the standard Air Force system for maintenance information. All maintenance information should be accessible for collection, storage, and dissemination of critical data for repair and improvement of Air Force weapons systems and equipment.

Knowledge. Information from multiple domains being synthesized, through inference or deduction, into meaning or understanding not previously known. This includes: explicit knowledge, which can be easily articulated, codified, and stored; and tacit knowledge, which is based on personal experience, expertise, and judgment. Tacit knowledge is more challenging to capture and share than explicit knowledge.

Knowledge Management (KM). Handling, directing, governing, or controlling of natural knowledge processes within an organization in order to achieve the goals and objectives of the organization.

Knowledge Operations (KO). Application and adaptation of Knowledge Management (KM) into daily AF operations to enable information/decision superiority. KO leverages the interaction of people, processes, and EIS technologies to capture, store, organize, share, and control tacit and explicit knowledge, ensuring all mission execution processes have access to relevant cross-functional information in a collaborative, timely, and contextual manner.

Knowledge Training. Training used to provide a base of knowledge for task performance. Learning gained through knowledge rather than hands-on experience. It may also be used in lieu of task performance when the training capability does not exist. (DAFI 36-2670)

Learning Program (LP). Learning Programs are developed to help support OJT and upgrade training as part of the AFSC's CFETP. LPs are published to provide the information necessary to satisfy the career knowledge component of OJT. These programs/courses are developed from references identified in the CFETP, by the Learning Program Manager (LPM), and by the AFSC's High Performance Team (HPT). LPs must contain information on basic principles, techniques, and procedures common to an AFSC. They do not contain information on specific equipment or tasks unless best illustrating a procedure or technique having utility to the entire AFSC. If available, supervisors will use LPs to satisfy career knowledge requirements for UGT. When LPs are not available, trainees will study the applicable technical references identified by the supervisor and/or CFETP. Also see High Performance Team (HPT) and Learning Program Manager (LPM).

Learning Program Manager (LPM). Formerly known as CDC Writers, LPMs are responsible for the development of their assigned AFSC Learning Programs (LPs). They not only write and update Learning Programs, but also work directly with the AFCFMs on several lines of effort to drive cyber workforce training into the next era. They serve as the chairperson for their AFSC's High Performance Team (HPT) and use the data gathered during STRTs and UT&Ws to modernize the CFETP and associated AFJQS/AFQTPs.

Major Command (MAJCOM). A MAJCOM represents a major Air Force subdivision having a specific portion of the Air Force mission. Each MAJCOM is directly subordinate to HQ USAF. MAJCOMs are interrelated and complementary, providing offensive, defensive, and support elements.

MAJCOM Functional Managers (MFM). Advises the MAJCOM directorates and staff on 1D7XX/X utilization and training issues. Serves as the MAJCOM voting representative during career field Utilization and Training Workshops. Assists in gathering inputs and data to complete enlisted grade allocation for Career Progression Group (CPG) reviews. Provides guidance to field units on 1D7XX/X personnel issues. Assists with the dissemination of information regarding Air Force and career field policies, plans, programs, and procedures to field units.

Master Task Listing (MTL). A comprehensive list (100%) of all tasks performed within a work center and consisting of the current CFETP or AFJQS and locally developed AF Forms 797 (as a minimum). Should include tasks required for deployment and/or UTC requirements.

Master Training Plan (MTP). Employs a strategy for ensuring the completion of all work center job requirements by using a MTL and provides milestones for task, Learning Program completion, and prioritizes deployment/UTC, home station training tasks, upgrade, and qualification tasks.

milSuite. The purpose of milSuite is to provide a collection of social business tools for Department of Defense (DoD) personnel that facilitates professional networking, learning, and innovation through knowledge sharing and collaboration.

Mission Qualification Training (MQT). MQT follows IQT and is training needed to qualify personnel to perform their specific unit mission in an assigned position. Completion of Specialty Training Standard task and knowledge training requirements may be accomplished concurrently with MQT.

Mission Readiness Training (MRT). Is specialized training to insure an organization's ability to understand, plan, program, and fulfill core mission responsibilities, even and especially in the face of emerging threats and other major changes in circumstance.

Occupational Analysis Report (OAR). A detailed report showing the results of an occupational survey of tasks performed within a particular AFSC. This data is used to provide personnel and training decision-makers with factual and objective job information which enables them to justify and/or change personnel utilization policies and programs, refine and maintain occupational structures, and establish, validate, and adjust testing and training programs.

On-the-Job Training (OJT). Hands-on, over-the-shoulder training conducted to certify personnel in both upgrade (skill level award) and job qualification (duty position) training.

Personally Identifiable Information (PII). Information about an individual that identifies, links, relates, or is unique to, or describes him or her, e.g.: SSN, age, military rank, civilian grade, marital status, race, salary, home/office phone numbers, or other demographic, biometric, personnel, medical, and financial information, etc.

Proficiency Training. Additional training, either in-residence or exportable advanced training courses, or on-the-job training, provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade.

Qualification Training. Hands-on, task performance based training designed to qualify Airmen in a specific duty position. This training program occurs both during and after the upgrade training process and is designed to provide skills training required to do the job.

Quality Assurance (QA). The Quality Assurance program ensures programs, functions, process, equipment, systems, end item or service are of the type and quality to meet/or exceed mission requirements. The QA program enhances mission accomplishment within the confines of public law, DoD/AF policy and guidance or technical orders. QA empowers commanders to actively manage mission risk at the appropriate level.

Quality Assurance Representative (QAR). A QAR is a member of the unit, not permanently assigned to a QA program. QARs should be highly qualified persons identified by skill and experience, motivation, and knowledge of evaluation, analysis, and support duties. QARs are often used in small units or detachments where a full QA program does not exist, or when mission needs dictate a smaller permanent QA presence and still needs to complete inspections. When a military member is assigned as a QAR they must possess a minimum 5-skill level (PAFSC).

Quality Training Flight (Q-Flight). As part of the 81st Training Support Squadron at Keesler AFB, the primary mission of the Q-Flight is to develop on-the-job training tools used by trainers to train and qualify Airmen in position specific duties. The flight produces AFJQS's, AFQTP's, and handbooks for the following career fields: 1D7XX - Cyber Defense Operations and 3FXXX - Personnel/Administration. Additionally, Q-Flight assists with the development, standardization and publishing of all 1D7 Career Field Education and Training Plans (CFETP).

Records Management. The planning, controlling, directing, organizing, training, promoting, and other managerial activities involved in records creation, maintenance and use, and disposition in order to achieve adequate and proper documentation of the policies and transactions of the Federal Government and effective and economical management of agency operations. (AFPD 33-3, *Information Management*)

Resource Constraints. Resource deficiencies (such as money, facilities, time, manpower, and equipment) that preclude desired training from being delivered.

Senior Enlisted Leader (SEL). Senior Enlisted Leaders jobs are special positions awarded to senior NCOs based on their grade, an installation's needs and how well someone might perform in the job. They take on management duties, mentorship and career counseling, and other personnel and logistics issues within a unit. Some managerial duties and responsibilities common to all SELs are: managing and directing personnel resource activities, interpreting and enforcing policy and applicable directives, establishing control procedures to meet work goals and standards, recommending or initiating actions to improve functional operation efficiency, planning and programming work commitments and schedules, and developing plans regarding facilities, supplies, and equipment procurement and maintenance.

Service Oriented Architecture (SOA). A services oriented architecture (SOA) environment makes it easier and faster to build and deploy information capabilities that directly serve the needs of the Air Force. SOA is an information technology environment where the following occur: Mission and business processes are supported by information assets. Information assets are delivered to consumers through content delivery services. Content delivery services and other services interact to support process threads or to deliver information assets. Core services, such as infrastructure and presentation services, are independent of the content delivery services. Net-centric protocols and services allow federating and re-using both content delivery and core services for multiple users, domains, and information sources.

Shred-outs (Shreds). Shreds are the alphabetical suffix that identifies specialization in a specific career path. For example 1D7XXR is the RF Operations shred-out of Cyber Defense Operations.

Specialized Training Package (STP) and COMSEC Qualification Training Package (QTP). A composite of lesson plans, test material, instructions, policy, doctrine, and procedures necessary to conduct training. These packages are prepared by AETC, validated by Cyberspace Capabilities Center (CCC), and administered by qualified communications security (COMSEC) maintenance personnel.

Specialty Training Requirements Team (STRT). A meeting chaired by the AFCFM with MAJCOM FMs, AETC Training Managers, Subject Matter Experts (SME) and HQ AETC Occupational Analysis Division (OAD) in attendance. Typically held annually to finalize any CFETP changes or enlisted classification directory descriptions.

Specialty Training Standard (STS). An Air Force publication describing an Air Force specialty in terms of tasks and knowledge for Airman in a specialty may be expected to perform or to know on the job. It also identifies the training provided to achieve a 3-, 5-, 7-, or 9-skill level within an enlisted AFS. It further serves as a contract between AETC and the functional user to show which of the overall training requirements for an Air Force Specialty Code (AFSC) are taught in formal schools and correspondence courses.

Standard. An exact value, a physical entity, or an abstract concept established and defined by authority, custom, or common consent to serve as a reference, model, or rule in measuring quantities or qualities, establishing practices or procedures, or evaluating results. It is a fixed quantity or quality.

Standardization and Evaluation (Stan Eval). The purpose of the Cybercrew Stan/Eval program is to provide commanders a tool to validate readiness and the effectiveness of unit operations, including documentation of individual member qualifications and certifications.

System Training Plan (STP). A living document explaining the training needed for a system and how to obtain the training.

Task Module (TM). A group of tasks performed together within an AFS requiring common knowledge, skills, and abilities. TMs are identified by an identification code and a statement.

Total Force. All collective components (active, reserve, guard, and civilian elements) of the United States Air Force.

Training Business Area (TBA). A web-based training application providing Air Force warfighters with global, real-time visibility into qualifications, certifications, and training status of communications professionals. TBA supports base, wing, and work center training management activities by automating business processes and capabilities to eliminate paper-based practices. The system centralizes management of training task data, provides user access to CFETPs/JQSs, and increases security through a single AF Portal log on.

Training Capability. The ability of a unit or base to provide training. Authorities consider the availability of equipment, qualified trainers, study reference materials, and other factors in determining a unit's training capability.

Training Planning Team (TPT). Comprised of the same personnel as a STRT, TPTs are more intimately involved in training development and the range of issues examined is greater than in the STRT forum.

Training Requirements Analysis (TRA). A detailed analysis of tasks for a particular AFSC to be included in the training decision process.

Training Setting. The type of forum in which training is provided (formal resident school, on- the-job, field training, mobile training team, self-study, etc.).

Unit Type Code (UTC). A five-character alphanumeric code identifying a specific force package of personnel and/or equipment. The UTC is the means for linking logistics and manpower details within a unit type and is used to communicate force data. The UTC represents a wartime capability designed to fill a valid contingency requirement.

Upgrade Training (UGT). Training that leads to the award of a higher skill level.

Utilization and Training Pattern. A depiction of the training provided to and the jobs performed by personnel throughout their tenure within a career field or AFS. There are two types of patterns: 1) Current pattern, which is based on the training provided to incumbents and the jobs to which they have been and are assigned; and 2) Alternate pattern, which considers proposed changes in manpower, personnel, and training policies.

Warfighter Communications. This includes all applicable statutes but specifically those systems designed to be employed in austere, mobile, and/or expeditionary environments, to provide command and control in support of Air or Space Force missions.

Wartime Tasks. Those tasks which must be taught when courses are accelerated in a wartime environment. In response to a wartime scenario, these tasks will be taught in the 3-level course in a streamlined training environment. These tasks are only for those career fields still needing them applied to their schoolhouse tasks.

Workflow. A series of steps necessary for the initiation, tracking, and delivery of services or outputs with the capability to cut across existing or future organizational boundaries. Furthermore, web-based workflow products allow electronic coordination, staffing, and task management of documents and files.

Section A - General Information

1. Purpose. This CFETP provides the information necessary for AFCFM, MFMs, commanders, training managers, supervisors and trainers to plan, develop, manage, and conduct an effective and efficient career field training program. The plan outlines the Air Force Specialty (AFS) training individuals should receive to develop and progress throughout their career. This plan identifies AFSC requirements for Apprentice (3-skill level), Journeyman (5-skill level) and Craftsman (7-skill level). Normally AETC conducts AFSC-specific initial skills training upon an individual's entry into the Air Force or upon retraining into this specialty. After successful completion, the Airmen is awarded the Apprentice 3-skill level. *Upgrade training* identifies the mandatory courses, task qualification requirements, and correspondence course completion requirements for award of the 3-, 5-, 7-, 9-skill levels. *Qualification training* is actual hands-on task performance training designed to qualify an Airman in a specific duty position. This training occurs during and after the upgrade training process. It is designed to provide the performance skills and knowledge required to do the job. *Advanced training* is formal specialty training used for selected Airmen. *Proficiency training* is additional training, either in-residence or exportable advanced training courses, or on-the-job training provided to personnel to increase their skills and knowledge beyond the minimum required for upgrade. The CFETP also:

1.1. Serves as a management tool to plan, manage, conduct, and evaluate a career field-training program. Also, it is used to help supervisors identify training at the appropriate point in an individual's career.

1.2. Identifies task and knowledge training requirements for each AFS skill level and recommends education and training throughout each phase of an individual's career.

1.3. Lists training courses available in the specialty, identifies sources of training, and the training delivery method.

1.4. Identifies major resource constraints that impact full implementation of the desired career field training process.

2. Use of the CFETP. The plan is used by CFMs, MFMs, and supervisors at all levels to ensure comprehensive and cohesive training programs are available for each individual in the specialty.

2.1. AETC training personnel develop or revise formal resident, nonresident, field and exportable training based upon requirements established by the users and documented in Part 2 of the career field education and training plan. They also work with the Lead MAJCOMs in coordination with the AFCFMs to develop acquisition strategies for obtaining resources needed to provide the identified training.

2.2. MFMs ensure the CFETP mandatory requirements are incorporated as part of MAJCOM-specific functional training programs. On-the-job Training, resident training, and contract training or exportable courses can satisfy identified requirements. Ensure Major Command-developed and resource training to support this AFSC is identified for inclusion into the plan.

2.3. 81st TRSS/TSQ Qualification Training Flight (Q-Flight) personnel develop training packages (AFJQSs/AFQTPs) based on requests submitted by the MAJCOMs and according to the priorities assigned by the AFCFMs/MFMs.

2.4. Cyber Defense Operations Airmen complete the mandatory training requirements specified in this plan. The list of courses in Part 2 is used as a reference to support training.

2.5. MFMs submit recommended CFETP modifications to the 81st TRSS Q- Flight Customer Service Desk at 81st TRSS/TSQS, 601 D Street, Keesler AFB MS 39534-2235 or call DSN 597-3343 commercial 228-377-3343. To contact electronically send email to: qflight.customer.service@us.af.mil.

3. Coordination and Approval of the CFETP. The AFCFM develops the CFETP, the Functional Manager reviews and forwards the CFETP for Functional Authority approval. The AFCFM will initiate an annual review of this document to ensure currency and accuracy. MAJCOM representatives and AETC training personnel will identify and coordinate on the career field training requirements. Using the list of courses in Part 2, ensures elimination of duplicate training.

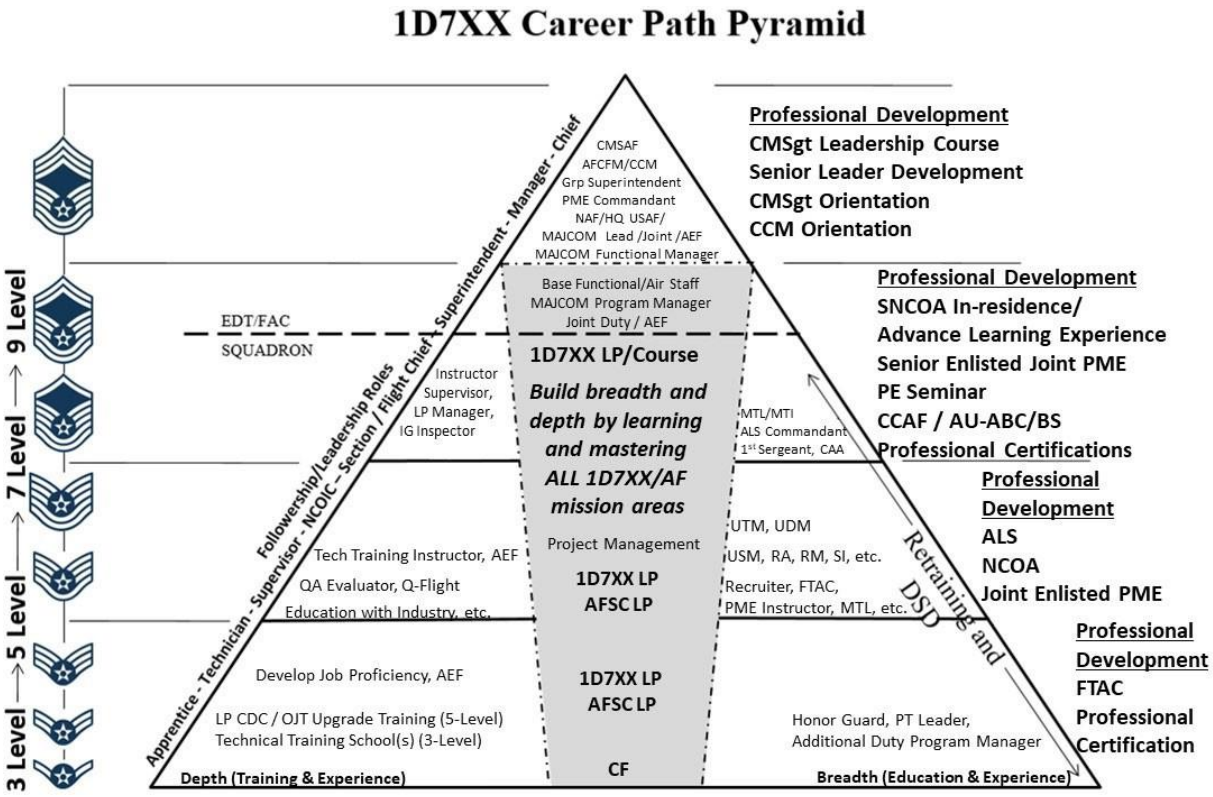
Section B - Career Field Progression and Information

4. Specialty Descriptions. This information supplements the AFECD. AFSC specific descriptions can be found in the AFECD. Duties and Responsibilities:

4.1. Air Force Career Field Managers (AFCFM) for the Cyber Defense Operations Career Fields. (AFPD 36-26, *Total Force Development and Management*; DAFI 36-2670, *Total Force Development*; AFMAN 36- 2100, *Utilization and Classification of Military Personnel*; Air Force Enlisted Classification Directory). The AFCFM is appointed by the Director, Intelligence Surveillance and Reconnaissance/Cyber Effort Operations Readiness and Talent Management, dual hatted as the CEO Functional Manager (AF A2/6F) in accordance with DAFI 36-2670. Advises the AF A2/6F on all matters affecting the Cyber Defense Operations career fields. Communicates directly with MFMs and AETC Training Managers to disseminate Air Force and career field policies and program requirements. Ensures development, implementation, and maintenance of the CFETP. Serves as the chairperson for the STRT and uses it as a forum to determine and manage career field education and training requirements as they apply to mission needs. Possesses final authority to waive CFETP requirements, including Learning Programs. Assists AETC training managers and course supervisors with planning, developing, implementing, and maintaining all AFSC-specific training courses. Assists in the development of AFSC-related manpower.

4.2. MAJCOM Functional Managers (MFM) for Cyber Defense Operations. (DAFI 36-2670, *Total Force Development*; AFMAN 36-2100, *Utilization and Classification of Military Personnel*; Air Force Enlisted Classification Directory). Appointed by the MAJCOM Director of Communications (A6) or equivalent. Advises the MAJCOM directorates and staff on 1D7XX/X utilization and training issues. Serves as the MAJCOM voting representative during career field STRT. Assists in gathering inputs and data to complete enlisted grade allocation for Career Progression Group (CPG) reviews. Provides guidance to field units on 1D7XX/X personnel utilization. Assists with the dissemination of information regarding Air Force and career field policies, plans, programs, and procedures to field units. Assists in identifying qualified subject matter experts to help with the development of Specialty Knowledge Tests (SKT) and the Learning Program (LP). Acts as the primary MAJCOM reviewer on LP training and classification waiver request packages. Coordinates on all MAJCOM 1D7XX/X staffing and manpower issues.

5. Skills and Career Progression. Adequate training is essential to timely progression of personnel from 3-level to 9-level and plays an important role in the Air Force's ability to accomplish its mission. Everyone involved in training must do their part to plan, manage, and conduct effective training programs. The guidance provided in this part of the CFETP and the 1D7XX/X Cyber Defense Operations Career Field Path table will ensure individuals receive viable training at appropriate points in their careers. Mandatory requirements for upgrade training to each skill level are covered in Section C.



6. Training Decisions. This CFETP was developed to encapsulate an entire spectrum of training requirements for the Cyber Defense Operations career field family using a building block approach (simple to complex). Included in this spectrum is the strategy of when, where, and how to meet the training requirements. The strategy must be clear and affordable to reduce duplication of training and eliminate a disjointed approach to training.

6.1. 81st TRSS/TSQ (Q-Flight). Develops AFJQSs/AFQTPs to support tasks relating to Cyber Defense Operations and Systems, functions, and duties. Completion of AFJQSs/AFQTPs is mandatory by duty position for personnel in upgrade or qualification training.

6.2. Learning Programs. Mandatory requirements for upgrade training to each skill level are covered in Section C.

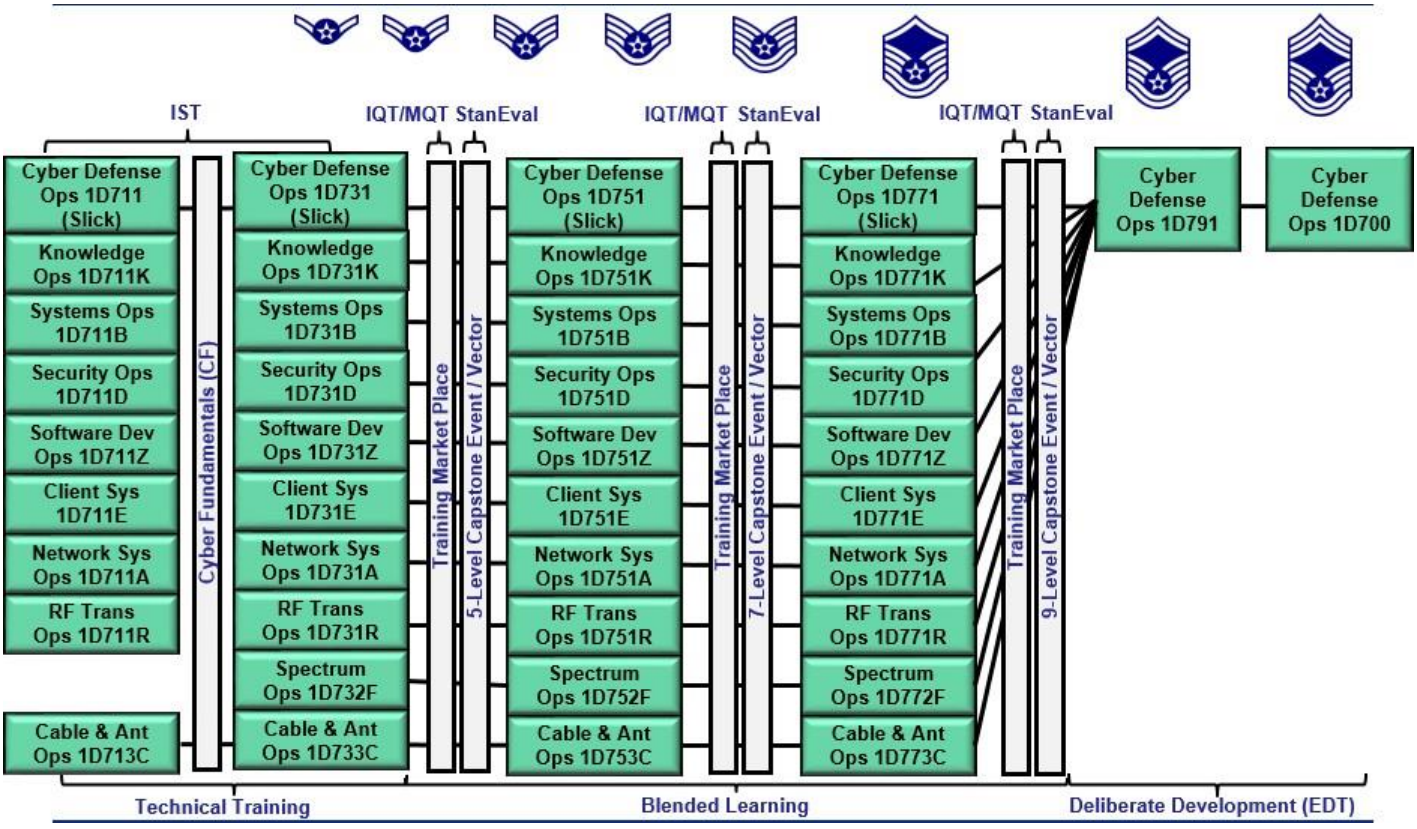
7. Community College of the Air Force (CCAF) Academic Programs. Enrollment in CCAF occurs upon completion of basic military training. CCAF provides the opportunity for all enlisted members to obtain an Associate in Applied Science degree. In order to be awarded the degree, it must be completed before the student separates from the Air Force, retires, or is commissioned as an officer. Degree programs and requirements applicable to the 1D7XX/X career field family can be found in the CCAF general catalog. In addition to its associate's degree program, CCAF offers the following:

7.1. CCAF Instructor Certification (CIC) Program. The College offers the CCAF Instructor Certification to instructors teaching full time in a CCAF affiliated school. The program is a three-level program (CIC-I, CIC-II and CIC-III). Each level consists of increased or advanced requirements and achievements. The program provides CCAF instructors a structured professional development track. To obtain more information and program procedures, refer to the CCAF Campus Affiliations Policies, Procedures and Guidelines (PPG).

7.2. General Education Mobile (GEM) / Air University Associate-to-Baccalaureate Cooperative (AU-ABC). The GEM program connects CCAF students with online general education courses offered by regionally accredited colleges and universities. The AU-ABC program connects CCAF graduates with online 4-year degree programs. The AU-ABC program includes postsecondary schools with regional accreditation and national accreditation through the Distance Education and Training Council.

7.3. Air Force Credentialing Opportunities On-Line (COOL). The AF COOL program provides a one-stop location for Airmen to explore credentials recognized by the civilian community that can enhance current performance in their AF job. Credentialing has two purposes. First, it continues to professionalize the enlisted force by providing up-to-date industry-recognized credentials in an Airman's AF job. Second, it provides a way for Airmen to prepare for civilian life by ensuring that they are ready for work in the civilian sector. There are many aspects to credentialing including certifications and licenses, and a variety of agencies provide credentialing. Some are at the national level while others are state or industry driven. To obtain more information, refer to the Air Force Virtual Education Center (AFVEC) AF COOL website.

8. Career Field Path. The following summarizes career progression and personnel allocations across the career ladder. 1D7XX/X personnel maintain their individual AFS shreds through the rank of MSgt. Upon promotion to SMSgt, all 1D7XX/X AFSC shreds merge to become a 1D791. 1D791s compete for the rank of CMSgt to become a 1D700.



1D7XX/X CYBER DEFENSE OPERATIONS CAREER PATH	
Education and Training Requirements	***Rank***
Basic Military Training	
Apprentice Technical School (3-Skill Level)	Amn
Upgrade To Journeyman (5-Skill Level) **MANDATORY** - No minimum required time-in-training for AD, ANG, AFRC, trainees, & retrainees. Maximum time-in training is defined in DAFI 36-2670. - Completion of 1D7XX/X and AFSC-specific Learning Programs. - (X) in the 1D7XX/X Learning Program task title indicates a requirement - Completion of 1D7XX/X and AFSC-specific CFETP requirements for5-Skill Level, Identified by an X in the Core & Wartime Column and an identifier in the 5-Skill Level proficiency Code column - Completion of applicable core AFJQSs/AFQTPs as identified in Part II, Section C - Support Materials Supplement for specific duty position, equipment, and systems at assigned location. **OPTIONAL** - AETC Supplemental training courses as determined by MAJCOM.	A1C SrA
Upgrade To Craftsman (7-Skill Level) **MANDATORY** - Minimum rank of SSgt. - No minimum required time-in-training for AD, ANG, AFRC, trainees, & retrainees. Maximum time-in training is defined in DAFI 36-2670. - Completion of 1D7XX/X and AFSC-specific CFETP requirements for7-Skill Level. Identified by an X in the Core & Wartime Column and an identifier in the 7-Skill Level proficiency Code column - Completion of 7-level Learning Program, if available. - (X) in the 1D7XX/X Learning Program task title indicates a requirement. - Completion of applicable core AFJQSs/AFQTPs as identified in Part II, Section C - Support Materials Supplement for specific duty position, equipment, and systems at assigned location. **OPTIONAL** AETC Supplemental training courses as determined by MAJCOM.	SSgt See https://mypers.af.mil/ statistics for average promotion sew- on and AFI 36-2502 for enlisted Airman Promotion /Demotion Programs.

1D7XX/X CYBER DEFENSE OPERATIONS CAREER PATH	
Education and Training Requirements	***Rank***
Eligibility and Prerequisite Requirements for Enlisted Professional Military Education (EPME i.e. ALS, NCOA, SNCOA) can be found at myPers. Airmen will be scheduled for resident EPME based on rank and time-in-grade. Review the Resident EPME Eligibility Chart for additional guidance.	TSgt MSgt
Upgrade To Senior Enlisted Leader (9-Skill Level) **MANDATORY** - Minimum rank of SMSgt. - Completion of Cyber Defense Senior Enlisted Leader Course. - Completion of applicable core AFJQSs/AFQTPs as identified in Part II, Section C - Support Materials Supplement for specific duty position, equipment, and systems at assigned location.	SMSgt
Chief Enlisted Manager (CEM) - CMSgt Leaderships Course (CLC)	CMSgt

Note 1: See Part II, Sections C and D for a list of AFJQSs/AFQTPs and AETC supplemental training.

Note 2: All core position tasks must be completed prior to upgrade. This includes all tasks outlined in CFETP 1D7XX/X and requirements outlined in the trainee's AFSC-specific STS.

Section C - Skill Level Training Requirements

9. Purpose. Skill level training requirements in this specialty are defined in terms of tasks and knowledge requirements. This section outlines the specialty qualification requirements for each skill level in broad, general terms and establishes the mandatory requirements for entry, award, and retention of each skill level. The specific task and knowledge training requirements are identified in the Specialty Training Standard at Part 2, Section A and B of this CFETP.

10. Specialty Qualification Requirements. This information supplements the AFECD. AFSC-specific specialty qualifications can be found in the AFECD.

10.1. Apprentice (3-Level) Training. The AFSC-specific Apprentice Course serves as the initial skills course and must be completed to be awarded a 1D7XX/X AFSC.

KNOWLEDGE	None required.
EDUCATION	Completion of high school is mandatory.
TRAINING	Completion of the career field-specific Apprentice course. See Part II, Section B for Course Objective List.
EXPERIENCE	None required.
OTHER	For award and retention of this AFSC, individual must maintain local network access IAW AFI 17-130, *Cybersecurity Program Management* and AFMAN 17-1301, *Computer Security (COMPUSEC).* Eligibility for a security clearance according DoD Manual 5200.02_AFMAN 16-1405, *Air Force Personnel Security Program,* is mandatory for award and retention of this skill level.
IMPLEMENTATION	Attendance at the career field-specific Apprentice course is mandatory for award of the 3-skill level unless waived by the AFCFM.

10.2. Journeyman (5-Level) Training.

KNOWLEDGE	Completion of the 1D73X and AFSC-specific 5-Level Learning Programs.
TRAINING	No mandatory AETC training courses are required for upgrade. Completion of 5-level training track CBTs as applicable.
EXPERIENCE	Qualification in and possession of AFSC 1D7XX/X. Experience performing 1D7XX/X functions specific to your career field. Completion of all STS core tasks. Completion of applicable AFJQSs/AFQTPs. Completion of all local tasks assigned for the duty position.
OTHER	For award and retention of this AFSC, individual must maintain local network access IAW AFI 17-130, *Cybersecurity Program Management* and AFMAN 17-1301, *Computer Security (COMPUSEC).*
IMPLEMENTATION	Entry into formal journeyman upgrade training is accomplished once individuals are assigned to their first duty station. Qualification training is initiated any time individuals are assigned duties for which they are not qualified. Use LPs, CBTs and AFJQSs/AFQTPs concurrently to obtain the necessary qualification for refresher and cross-utilization training.

10.3. Craftsman (7-Level) Training.

KNOWLEDGE	All 1D75X knowledge qualifications apply to the 1D77X requirements. Completion of 1D7XX/X 7-level Learning Program, if available.
TRAINING	Completion of 7-level training track CBTs. Completion of applicable AFJQSs/AFQTPs.
EXPERIENCE	Qualification in and possession of AFSC 1D75X. Experience performing or supervising one of the functions of 1D7XX/X. Completion of all STS core tasks. Completion of all local tasks assigned for the duty position.
OTHER	For award and retention of this AFSC, individual must maintain local network access IAW AFI 17-130, Cybersecurity Program Management and 17-1301, *Computer Security (COMPUSEC).*
IMPLEMENTATION	Entry into OJT is initiated when individuals obtain the necessary rank and skill level. Qualification training is initiated any time an individual is assigned duties for which they are not qualified. Use the Learning Program and AFJQSs/AFQTPs concurrently to obtain the necessary qualification for refresher and cross-utilization training.

10.4. Senior Enlisted Leader (9-Level) Training. Upgrade training consists of: (1) Completion of Cyberspace Senior Enlisted Leader Course. Qualification Training is required prior to upgrade to 9-level for SMSgts and CMSgts. Wear the badge as prescribed by AFI 36-2903, *Dress and Personal Appearance of Air Force Personnel* paras 9.1 and 9.1.3.

KNOWLEDGE	Mandatory of: Techniques and Procedures of Systems Analysis and Design; Project Management, Communications-Computer Processing; System Operation and Maintenance; System and Equipment Capability, Capacity, and Logic; Personnel and Equipment Performance Measurement; Awards Programs and Manpower and Organization; Security, Administrative Contract, Training, Resource, Records, Publications, Deployment, Logistics, and Base/Unit Functional Management.
TRAINING	Completion of E6ACW1D79X 00AA Cyber Defense Senior Enlisted Leader Course. Mandatory for upgrade to 9-Level, per AFCFM.
EXPERIENCE	Qualification in and possession of AFSC 1D77X is mandatory. Directing functions such as installing, maintaining, operating, repairing, or modifying the various cyberspace systems, software development, cyber security, or resource management as related to the feeder specialties.
OTHER	For award and retention of this AFSC, individual must maintain local network access IAW AFI 17-130, *Cybersecurity Program Management* and AFMAN 17-1301, *Computer Security (COMPUSEC).*
IMPLEMENTATION	Entry into OJT is initiated when individuals are selected for the rank of SMSgt. Qualification training is initiated any time individuals are assigned duties for which they are not qualified.

10.5. Training Sources.

10.5.1. Career field-specific and 1D7XX/X Learning Programs are available via the AF e- Learning. If applicable, career field-specific LPs are available via myLearning. A complete description and listing of LPs offered by AFCDA is available via Air University.

10.5.2. AFJQSs/AFQTPs are Air Force publications and are mandatory for use by personnel in upgrade or qualification training. They are developed by the 81st TRSS/TSQ (Q-Flight), Keesler AFB, MS and may be downloaded from the Q-Flight SharePoint site. Procedures for requesting development of AFJQSs/AFQTPs are contained in AFMAN 17-204, *Air Force On-the- Job Training Products for Cyber Defense Operations Enlisted Specialty Training*.

11. Occupational Badges. The Cyber Defense Operations badge has the same eligibility criteria as other occupational badges. Enlisted Cyber Defense Operations personnel may wear the basic badge after finishing technical school. Enlisted Cyber Defense Operations personnel earn the right to wear the senior badge after being awarded the 7-skill level. Master badges are awarded to Cyber Defense Operations Master Sergeants who have at least five years of experience in the specialty at the 7-skill level or higher. Chief Master Sergeants who have cross-flowed into the career field earn the basic badge when they are awarded the CEM code, moving up to the senior badge after a year of service and to the master level after five years.

Section D - Resource Constraints

12. Purpose. This section identifies known resource constraints that preclude optimal and desired training from being developed or conducted, including information such as cost and manpower. Narrative explanations of each resource constraint and an impact statement describing what effect each constraint has on training are included. Also included in this section are actions required, OPR and target completion dates. Resource constraints will be, at a minimum, reviewed and updated annually.

Apprentice (3-Level) Training. The 1D7XX/X and AFSC-specific STSs may contain two proficiency codes in the 3-level course column to indicate the desired level of instruction versus the actual level of instruction due to resource constraints. Example: 2b / 1a. A STS waiver may be issued for the STS elements not taught to the desired proficiency code.

Section E - Transition Training Guide

There are currently no transition training requirements. This area is reserved.

PART II

Section A - Specialty Training Standards

1. Implementation. AFSC-Specific STSs are located in the Attachments Section of this CFETP. See AFSC-specific STS for 3-Level course start date.

2. Purpose. As prescribed in DAFI 36-2670, this CFETP:

2.1. Lists in column 1 (Task, Knowledge, and Technical Reference) the most common tasks, knowledge, and technical references (TR) necessary for Airmen to perform duties in the 3-, 5-, and 7-skill level. Column 2 (Core Tasks) identifies, by 5, or 7, specialty-wide training requirements. **Note:** Core tasks are minimum task training requirements for upgrade to the 5-skill level.

2.2. Provides certification for OJT. Column 3 is used to record completion of tasks and knowledge training requirements. Use automated training management systems to document technician qualifications, if available. For initial certification or transcribing documentation complete the columns in accordance to DAFI 36-2670.

2.3. Shows, in column 4, formal training and correspondence course requirements by listing the proficiency to be demonstrated on the job by the graduate as a result of training on the task and the career knowledge provided by the corresponding course. Learning Programs are available via AF e-Learning. If applicable, Career Development Courses are available via Air University.

2.4. Qualitative Requirements. Attachment 1 contains the tasks, knowledge and proficiency levels referenced in paragraph 2. Columns are marked with a proficiency code to indicate subjects taught. An X in the proficiency code column indicates a lack of student man-years and instructor resources. Trainees without prerequisites specified in Education and Training Course Announcement (ETCA) cannot be expected to meet proficiency levels indicated.

2.5. Becomes a job qualification standard (JQS) for on-the-job training when placed in AF Form 623, *Individual Training Record* folder, and used according to DAFI 36-2670.

2.6. Is a guide for development of promotion tests used in the Weighted Airman Promotion System. Specialty Knowledge Tests are developed at the AETC Airman Advancement Division, by senior Noncommissioned Officers with extensive practical experience in their career fields. Specialty Knowledge Tests are developed by subject matter experts who authenticate Weighted Airman Promotion System material and reference AF Specialty-specific occupational analysis data. Questions are based upon study references listed in the Enlisted Promotions References and Requirements Catalog. Individual responsibilities are in Chapter 4, paragraph 4.2.11 of AFMAN 36-2664, *Personnel Assessment Program*. Weighted Airman Promotion System is not applicable to the ANG or ARC.

3. Recommendations. Comments and recommendations are invited concerning the quality of AETC training. A Customer Service Information Line (CSIL) has been installed for the supervisors' convenience. For a quick response to concerns, call our CSIL at DSN 312-597-4566, 228-377-4566, or e-mail us at 81TRG.TGE.Workflow@us.af.mil. Reference this STS and identify the specific area of concern (paragraph, training standard element, etc.).

BY ORDER OF THE SECRETARY OF THE AIR FORCE

OFFICIAL

MARY F. O'BRIEN, Lt Gen, USAF
DCS for Intelligence, Surveillance, Reconnaissance
and Cyber Effects Operations

Attachments:
1. Qualitative Requirements
2. Specialty Training Standard (STS) 1D7XX
3. Specialty Training Standard (STS) 1D7X1
4. Specialty Training Standard (STS) 1D7X2F
5. Specialty Training Standard (STS) 1D7X3C

PREFACE

Note 1: Users are responsible for annotating technical references to identify current references pending STS revision. Locate current Air Force publications at:

DOD Issuances and OSD Administrative Instructions	https://www.esd.whs.mil/dd/
Air Force Publications	https://www.e-publishing.af.mil/
Air Force Communications Security (COMSEC) Collaborative Environment (CE)	https://usaf.dps.mil/teams/13312/default.aspx
Air Force Information Assurance Collaborative Environment (IACE)	https://usaf.dps.mil/teams/IACE/default.aspx
DISA Circulars and Instructions	https://www.disa.mil/About/DISA-Issuances
Technical Orders (TO)	https://www.my.af.mil/etims/ETIMS/index.jsp
AF e-Learning	https://usafprod.skillport.com/skillportfe/main.action

Note 2: Knowledge and/or performance tasks are defined in the AFJQS. AFJQS items set the standard for qualification and certification and are mandatory for use in conjunction with this STS when applicable to the duty position.

Note 3: All objectives are trained during wartime.

Note 4: Track and manage training for TSgts and below and MSgt/SMSgt retrainees using an automated training system (e.g., Training Business Area (TBA)).

Note 5: When an AFJQS is loaded into an automated training system (e.g., Training Business Area (TBA)), AFJQS task numbering will vary from the STS. The numbering scheme is defined by your work center specific master training plan.

Note 6: Third person certification is not required for Cyber Defense Operations Specialist personnel. However, members (to include civilians and contractors) assigned to crew positions are still required position certification in accordance with Stan/Eval procedures.

Note 7: In the event of data network or computer system failure, courses are authorized to use alternative methods of instruction to fulfill this STS element.

Note 8: Unless otherwise stated in the objective, the student may be allowed two assists from the instructor and still successfully achieve the proper level of proficiency. An instructor assist is defined as anytime an instructor must intervene to provide guidance to a student which leads to a satisfactory completion of the objective or to prevent a student from continuing in a manner which will lead to an unsatisfactory conclusion, safety violation, or damage to the equipment. Successful students have performed the task to the satisfaction of the course; however, they may not be capable of meeting the field requirements for speed or accuracy.

Note 9: All equipment related objectives are performed by following procedures from technical orders, technical manuals, or student instructional material developed by the training facility.

Note 10: Senior NCOs in the 1D7XX/X AFSCs are not required to have an Individual Training Plan (ITP) with the following exceptions: personnel in upgrade training status, or performing equipment maintenance as part of primary duties. Unit Commanders can require Senior NCOs with UTC tasks to have an ITP.

Note 11: The 1D7XX/X STS consists of tasks that are applicable to all 1D7XX/X AFSCs. This STS will be used as core requirement for 1D75X/X along with your respective 1D7XX/X. The 1D7X1 STS consists of tasks which are shared by shreds. 1D7X2F and 1D7X3C will only adhere to the requirements outlined in the trainee's AFSC-specific STS.

Note 12: Certification of CBRN Task Qualification Training (TQT) requirements is outlined in DAFI 36-2670 and AFI 10-2501. Any core 5 and 7 level tasks are appropriate for evaluation under TQT; supervisors must tailor task selection based on the Airman's assigned UTC, MAJCOM-specific or locally directed requirements. Work centers will identify additional TQT tasks as required.

Note 13: Tasks will be taught IAW CompTIA Security+ Certification CTS.

Section B - Course Objective List

4. There is currently no advanced course. This area is reserved.

Section C - Support Materials

5. The following list of support materials is not all-inclusive; however, it covers the most frequently referenced areas. The most current products can be found at the 81 TRSS/TSQ web page, and are available for download from the web site at https://usaf.dps.mil/teams/10445/default.aspx, https://aetc.adls.af.mil/login.aspx, and https://www.youtube.com/channel/UCp7lrge1aHDA6wnEaXrdm5Q. Procedures for requesting product development are found in AFMAN 17-204.

6. Generic AFJQSs/AFQTPs applicable to AFSC 1D7XX/X family is available at https://usaf.dps.mil/teams/10445/default.aspx?RootFolder=%2Fteams%2F10445%2FDocuments%2FCFETP%2F1D7XX%20%2D%20CYBER%20DEFENSE%20OPERATIONS&FolderCTID=0x010100A06BF221F643144E807354644DE7FCF3&View=%7B215A7876%2D5A74%2D4A5C%2DA4F0%2D1FCE911765A1%7D

Section D - Training Course Index

7. Purpose. This section of the CFETP identifies training courses available for continuation/ supplemental training. For information on all formal courses, refer to the Air Force Education and Training Course Announcements (ETCA) database, at https://cs2.eis.af.mil/sites/app10-ETCA/SitePages/Home.aspx or the Cyberspace Capabilities Center (CCC) SharePoint page at https://usaf.dps.mil/teams/ccc/SitePages/Home.aspx

8. Air Force In-Residence Courses. The following list of formal course is not all-inclusive; however, it covers courses applicable to the 1D7XX/X family. The most current list can be found at the 81 TRSS/TSQ web page at https://usaf.dps.mil/teams/10445/default.aspx?RootFolder=%2Fteams%2F10445%2FDocuments%2FCFETP%2F1D7XX%20%2D%20CYBER%20DEFENSE%20OPERATIONS&FolderCTID=0x010100A06BF221F643144E807354644DE7FCF3&View=%7B215A7876%2D5A74%2D4A5C%2DA4F0%2D1FCE911765A1%7D or the Cyberspace Capabilities Center (CCC) SharePoint page at https://usaf.dps.mil/teams/ccc/SitePages/Home.aspx

9. Air University Courses.

For a current listing of Air University courses go to https://www.airuniversity.af.mil/Barnes/

Section E - MAJCOM Unique Requirements

10. MAJCOM unique requirements will be identified and listed on a secondary document located on Q-Flight's SharePoint page at https://usaf.dps.mil/teams/10445/default.aspx?RootFolder=%2Fteams%2F10445%2FDocuments%2FCFETP%2F1D7XX%20%2D%20CYBER%20DEFENSE%20OPERATIONS&FolderCTID=0x010100A06BF221F643144E807354644DE7FCF3&View=%7B215A7876%2D5A74%2D4A5C%2DA4F0%2D1FCE911765A1%7D

THIS BLOCK IS FOR IDENTIFICATION PURPOSES ONLY Personal Data - Privacy Act of 1974		
PRINTED NAME OF TRAINEE *(Last, First, Middle Initial)*	INITIALS *(Written)*	EDIPI
PRINTED NAME OF TRAINER AND CERTIFYING OFFICIAL AND WRITTEN INITIALS		
N/I	N/I	
N/I	N/I	
N/I	N/I	
N/I	N/I	
N/I	N/I	
N/I	N/I	

PROFICIENCY CODE KEY		
	SCALE VALUE	DEFINITION**: The individual**
Task Performance	1	Can do simple parts of the task. Needs to be told or shown how to do most of the task. (EXTREMELY LIMITED)
	2	Can do most parts of the task. Needs help only on hardest parts. (PARTIALLY PROFICIENT)
	3	Can do all parts of the task. Needs only a spot check of completed work. (COMPETENT)
	4	Can do the complete task quickly and accurately. Can tell or show others how to do the task. (HIGHLY PROFICIENT)
***Task Knowledge**	a	Can name parts, tools, and simple facts about the task. (NOMENCLATURE)
	b	Can determine step by step procedures for doing the task. (PROCEDURES)
	c	Can identify why and when the task must be done and why each step is needed. (OPERATING PRINCIPLES)
	d	Can predict, isolate, and resolve problems about the task. (ADVANCED THEORY)
****Subject Knowle**	A	Can identify basic facts and terms about the subject. (FACTS)
	B	Can identify relationship of basic facts and state general principles about the subject. (PRINCIPLES)
	C	Can analyze facts and principles and draw conclusions about the subject. (ANALYSIS)
	D	Can evaluate conditions and make proper decisions about the subject. (EVALUATION)

Explanations

* A task knowledge scale value may be used alone or with a task performance scale value to define a level of knowledge fora specific task. (Example: b and 1b)

** A subject knowledge scale value is used alone to define a level of knowledge for a subject not directly related to any specific task, or for a subject common to several tasks. This mark is used alone instead of a scale value to show that no proficiency training is provided in the course or Learning Program.

(-) This mark is used alone in the Proficiency Codes Course columns to show no proficiency training is provided in the applicable course. Training is satisfied through OJT, CBTs, Learning Programs, or a combination.

(X) This mark is used alone in the Proficiency Codes Course columns to show training is required but not given due to limitations in resources or is a future requirement. Training is satisfied through OJT, CBTs, Learning Programs, or a combination.

NOTE: All tasks and knowledge items shown with a proficiency code are trained during wartime.

(X) When this code is used in the Core & Wartime Tasks Column it indicates the CFM has mandated this task as a core requirement to the level identified in the Task Knowledge Levels Column. The training to satisfy this requirement is either provided through OJT, CBTs, Learning Programs, or a combination.

(*) When this code is used in the Core & Wartime Tasks Column it indicates the CFM has mandated this task as a wartime/deployment requirement.

(^) When this code is used in the Core & Wartime Tasks Column it indicates the CFM has mandated this task require third person certification.

CFETP versus AFJQS task coding. AFJQSs/AFQTPs annotated in the CFETP with a skill level denotes the AFJQS is mandatory.

1. Implementation. This STS will be used for technical training provided by AETC for the 3-level course beginning on TBD.

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
1. CYBER DEFENSE OPERATIONS TR: 1D7XX Learning Program (AF e-Learning); AFMAN 36-2100; AFPD 172; 1D7XX CFETP; AFECD; JP 3-12, JP 3-13, JP 3-13.1, and JP 3-13.2 NOTE: Review the 1D7XX Learning Plan										
1.1. Introduction to Cyber										
1.1.1. Cyber Operations Roles and Responsibilities	X						A	A	-	-
1.1.2. Explain Qualifications	X						-	A	A	-
1.1.3. Progression within AFSC	X						-	A	B	-
1.1.4. Read CFETP 1D7XX, Part I	X						A	A	A	A
1.2. Cyber Policy, Doctrine, and Guidance							-	-	A	B
2. PUBLICATIONS AND DIRECTIVES TR: 1D7XX Learning Program (AF e-Learning); AFI 33-360; TO 00-51; https:// dtic.mil										
2.1. Publications	X						A	A	B	-
2.2. Technical Orders (TO)	X						A	A	A	-
2.3. Use Publications/Technical Orders When Performing Work	X						2b / 1a	A	B	-
3. AUTHORITY AND USER RESPONSIBILITIES TR: 1D7XX Learning Program (AF e-Learning); Annex 3-13 https://www.doctrine.af.mil/Doctrine-Annexes/Annex-3-13-Information-Ops/; JP 3-13 https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_13.pdf; USC TITLE 10, 18, 50 and http://iase.disa.mil/eta/Pages/index.aspx										
3.1. Anti-Piracy							A	A	-	-
3.2. Ethics							A	A	-	-
3.3. US Codes							A	A	B	B
3.4. US Telecommunications Laws							-	-	-	A
3.5. International Laws Affecting Electronic Communications							-	-	-	A
3.6. LOAC Considerations When Planning/Conducting Cyber Operations							-	-	-	A
3.7. Rules of Engagement (ROE)	X						A	B	B	-
3.8. Cyberspace Management Fundamentals							-	A	-	B
4. CYBER ENCLAVE TR: 1D7XX Learning Program (AF e-Learning); AFPD 172, AFI 17-201; JP 3-12; http://www.afcyber.af.mil										
4.1. Functional Mission Analysis (FMA) Concept							-	A	-	-
4.2. Structure							-	A	-	B
4.3. Missions							-	A	-	-
4.4. Offensive Cyberwarfare Operations							-	A	A	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
4.5. Defensive Cyberwarfare Operations							-	A	A	-
4.6. Exploitation							-	A	A	-
4.7. Effects on Adversary Decision Makers	X						-	B	B	-
4.8. Units										
4.8.1. Joint, DOD, and Combined Units	X						-	A	-	A
4.8.2. Air Force Units	X						-	A	A	-
4.8.3. Air Force Network Operations (AFNetOps)	X						-	B	B	-
5. ENTERPRISE SYSTEMS/PROGRAMS TR: 1D7XX Learning Program (AF e-Learning); AFI 13-Series, Joint Pub 6-0; CJCSIs 3231.01C Nuclear Command and Control Extremely Sensitive Operation, 6211.02D										
5.1. Define Non-Secure Networks	X						A	A	-	-
5.2. Define Secure Networks	X						A	A	-	-
5.3. Nuclear Command, Control and Communications Systems	X						-	A	-	-
5.4. Space Systems	X						-	A	-	-
5.5. Airborne Networks	X						-	A	A	-
5.6. Battlefield Networks	X						-	A	A	-
6. SAFETY/RISK MANAGEMENT (RM) TR: 1D7XX Learning Program (AF e-Learning); AFIs 32-1065, 90-802, 91-202, AFMAN 91-203; AFPAM 90-803, AFPD 91-2 and MIL STD 188-124B										
6.1. Safety	X						B	B	-	-
6.2. RM	X						A	A	A	-
6.3. Fire Extinguishers	X						A	A	A	-
6.4. Manage Work Center Safety Program	X						A	A	A	-
6.5. Understand First Aid, CPR	X						A	-	-	-
6.6. Characteristics of Personal and Equipment Protection	X						A	A	-	-
6.7. Practice Safety Precautions	X						2b / 1a	-	-	-
7. CYBER SECURITY TR: 1D7XX Learning Program (AF e-Learning); AFIs 10-701, 17-130, 16-1404; AFPD 10-7; AFMAN 17-1301										
7.1. Risk, Threats and Vulnerabilities	X						A	A	B	-
7.2. Network Security	X						B	A	B	-
7.3. Firewalls										
7.3.1. Concepts	X						A	A	-	-
7.3.2. Configure	X						2b	-	-	-
7.3.3. Troubleshoot	X						2b	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
7.4. Security Zones	X						A	A	-	-
7.5. Incident Response	X						B	A	-	-
7.6. Cyber Hygiene										
7.6.1. Acceptable Use/Behavior for Information Technology	X						A	A	-	-
7.6.2. Personal and Family Countermeasures (CM)							A	-	-	-
7.6.3. Apply Secure Configurations	X						2b	-	-	-
7.7. Security Programs										
7.7.1. Information Protection (IP) Operations	X						-	A	-	-
7.7.2. Operations Security (OPSEC)	X						A	A	A	-
7.7.3. Information Security (INFOSEC)	X						A	-	-	-
7.7.4. Information Access Programs	X						A	A	-	-
7.7.5. Personal Identifiable Information (PII)	X						-	-	-	-
7.7.6. Information Assurance (IA)	X						A	A	B	-
7.7.7. Computer Security (COMPUSEC)	X						A	B	-	-
7.7.8. TEMPEST	X						A	A	-	-
7.7.9. Communications Security (COMSEC)	X						A	A	-	-
7.7.10. Classified Material Control	X						A	B	-	-
7.8. Physical Security	X						A	-	-	-
7.9. Explain Cryptology (Bound & Unbound) Concepts	X						A	A	-	-
8. NETWORK FUNDAMENTALS TR: 1D7XX Learning Program (AF e-Learning)										
8.1. Internet policy Familiarization/Complete Required Network Access Training							A	-	-	-
8.2. OSI Model	X						B	B	B	-
8.3. Network Devices	X						A	A	A	-
8.4. Communications Mediums	X						A	A	A	-
8.5. LAN Architecture	X						A	A	A	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
8.6. Ports, Protocols and Services (PPS)	X						B	B	B	-
8.7. Apply IP Address	X						2b	-	-	-
8.8. Network Types	X						A	B	B	-
8.9. Networks Layers	X						A	A	-	-
8.10. Network Topologies										
8.10.1. Topologies Fundamentals	X						A	B	B	-
8.10.2. Develop Logical Diagram	X						2b / 1a	-	-	-
8.10.3. Develop Physical Diagram	X						2b / 1a	-	-	-
8.10.4. Develop Data Flow Diagram	X						2b / 1a	-	-	-
8.11. Network Monitoring	X						A	B	-	-
8.12. Wireless Networking (WLAN)	X						B	B	B	-
8.13. Backup and Restore Device Documentation	X						A / -	A	-	-
8.14. Troubleshooting Methodology	X						B	A	-	-
8.15. Cable Management										
8.15.1. Cable Types and Handling	X						B	B	-	-
8.15.2. Test Cable	X						2b / -	-	-	-
8.16. Specialized Tools	X						A / -	A	-	-
9. SWITCHING AND ROUTING TR: 1D7XX Learning Program (AF e-Learning)										
9.1. Switching										
9.1.1. LAN Technologies	X						B	B	-	-
9.1.2. Configure Switches	X						2b	-	-	-
9.2. Virtual Local Area Network (VLAN)										
9.2.1. VLAN Fundamentals	X						B	B	-	-
9.2.2. Configure VLANs	X						2b / 1a	-	-	-
9.3. Configure Logical Security for Network Equipment	X						2b / 1a	-	-	-
9.4. Routing										
9.4.1. Routing Fundamentals	X						B	B	B	-
9.4.2. Configure Routers	X						2b	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
9.4.3. Implement Logical Security	X						2b / 1a	-	-	-
9.5. Apply Security Technical Implementation Guides (STIGs)	X						2b / 1a	-	-	-
9.6. Network Fault Isolation Techniques							1a	-	-	-
9.7. Troubleshoot Network Devices	X						2b	-	-	-
10. APPLIANCES (SERVERS) TR: 1D7XX Learning Program (AF e-Learning)										
10.1. Server Types	X						A	A	-	-
10.2. Virtualization	X						B / -	A	-	-
10.3. Active Directory										
10.3.1. Concepts	X						B	B	-	-
10.3.2. Configure	X						2b	-	-	-
10.3.3. Troubleshooting	X						2b	-	-	-
10.4. Domain Name System (DNS)										
10.4.1. Concepts	X						B	B	-	-
10.4.2. Configure	X						2b / 1a	-	-	-
10.4.3. Troubleshooting	X						2b / 1a	-	-	-
10.5. Dynamic Host Configuration Protocol (DHCP)										
10.5.1. Concepts	X						B	B	-	-
10.5.2. Configure	X						2b / 1a	-	-	-
10.5.3. Troubleshooting	X						2b / 1a	-	-	-
10.6. Apply Logical Security Concepts	X						2b / 1a	-	-	-
10.7. Apply Security Technical Implementation Guides (STIGs)	X						2b / -	-	-	-
10.8. Services and Processes										
10.8.1. Services										
10.8.1.1. Services Concepts	X						B / -	B	-	-
10.8.1.2. Start/Stop Services	X						1b / -	-	-	-
10.8.2. Processes										
10.8.2.1. Processes Concepts	X						B	B	-	-
10.8.2.2. Start/Stop Processes	X						1b / -	-	-	-
11. CLIENT SYSTEMS TR: 1D7XX Learning Program (AF e-Learning)										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
11.1. End User Devices / Components	X						B	B	B	-
11.2. Client Software										
11.2.1. Operating System (OS)	X						A	A	-	-
11.2.2. Mobile Device Operating System	X						A / -	A	-	-
11.2.3. Software Management Policies	X						A / -	A	-	-
11.2.4. Install	X						2b / -	A	-	-
11.2.5. Configure	X						2b / -	-	-	-
11.2.6. Troubleshoot	X						2b / -	-	-	-
11.3. Security										
11.3.1. Infectious and Malicious Software	X						A	B	B	-
11.3.2. Apply Logical Security	X						2b / 1a	-	-	-
11.3.3. Apply Security Technical Implementation Guides (STIGs)	X						2b / -	-	-	-
12. EXPEDITIONARY COMMUNICATIONS TR: 1D7XX Learning Program (AF e-Learning); AFIs 10-401, 10-403; AFMAN 171302-O; https://jkodirect.jten.mil/Atlas2/page/login/Login.jsf; https://aefonline.afpc.randolph.af.mil/default.aspx; AMC ADLS Gateway (AF Fundamentals of Expeditionary Operations) & Deployable Comms CONOPS (Uploaded)										
12.1. Joint Task Force (JTF) Organizational Structure							-	A	-	-
12.2. Concepts of Aerospace Expeditionary Force (AEF) Employment	X						-	A	A	-
12.3. UTC Management	X						-	-	B	B
12.4. Readiness Status Reporting	X						-	-	A	-
12.5. Force Module Communications Support Concept	X						-	-	A	-
12.6. Deployment Procedures										
12.6.1. Develop Load Plan	X						-	-	-	-
12.6.2. Explain Pallet Build Up - Air and Surface Procedures	X						-	-	-	-
12.6.3. Explain Hazardous Cargo Preparation	X						-	-	-	-
12.6.4. Prepare Documentation	X						-	-	-	-
12.6.5. Determine Site Selection Requirements	X						-	-	-	-
12.6.6. Determine Site Preparation Requirements	X						-	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
12.6.7. Determine Site Configuration Requirements	X						-	-	-	-
12.6.8. Determine Requirements for Constructing Deployment Site Utility Grids							-	-	-	-
13. WORK CENTER MANAGEMENT TR: 1D7XX Learning Program (AF e-Learning); AFIs 10-201, 21-103, 146352 , DODI1400.25V610_AFI36-807; TO 00-33A-1001; AFJQS XXXXX-212S										
13.1. Management Policies	X						-	A	A	-
13.2. Training										
13.2.1. Base/Unit Roles & Responsibilities	X						-	A	B	-
13.2.2. Supervisor / Trainer Roles & Responsibilities	X						-	A	B	-
13.2.3. Task Certifier Roles & Responsibilities	X						-	A	B	-
13.2.4. Trainee Responsibilities	X						-	A	-	-
13.2.5. Training Resources										
13.2.5.1. Common Cyber Training Sources	X						-	A	-	-
13.2.5.2. 1D7XX & AFSC-Specific Learning Programs	X						-	A	B	-
13.3. Inspection and Evaluation Programs										
13.3.1. Air Force and Cyber Inspections	X						-	A	B	-
13.3.2. Self-Assessment Program	X						-	A	B	-
13.4. Automated Information Systems (AIS)										
13.4.1. Job Data/Configuration Management Documentation (e.g.IMDS, Remedy, CIPS, IAO Express)	X						-	A	B	-
13.4.2. Training Record Management (e.g.TBA, AFTR, Patriot Excalibur)	X						-	-	B	-
13.5. Equipment and Records Management										
13.5.1. Asset/Property Management (e.g.DPAS, CA/CRL)	X						-	-	-	-
13.5.2. Records Management Program	X						-	A	-	-
14. FUNCTIONAL MANAGEMENT TR: 1D7XX Learning Program (AF e-Learning); AFECD; AFIs 36-2651, AFPD 36-28, 38-101, AFMAN 33-396; AFQTP 1D7XX-225E; 1D7XX CFETP										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
14.1. Career Field Functional Management	X						-	A	-	B
14.2. Superintendent Duties							-	-	A	B
14.3. Force Development/Management	X						-	A	A	B
14.4. Awards and Recognition	X						-	-	A	A
15. RESOURCE MANAGEMENT TR: 1D7XX Learning Program (AF e-Learning); AFPDs 10-6, 656; AFIs 10-601, 65601 V(1) & V(2)										
15.1. Financial Management							-	-	A	B
15.2. Funded Requirements	X						-	-	B	B
15.3. Unfunded Requirements	X						-	-	B	B
16. MANPOWER AND ORGANIZATION TR: 1D7XX Learning Program (AF e-Learning); AFPD 38-1; AFIs 38-101, 38-101										
16.1. Manpower Requirements							-	-	-	B
16.2. Air Force Manpower Standard (AFMS) Application							-	-	-	B
16.3. Manpower Studies							-	-	A	B
16.4. Manpower Products	X						-	-	A	A
16.5. Allocating Personnel	X						-	-	A	-
17. PROJECTS AND REQUIREMENTS FUNCTION TR: 1D7XX Learning Program (AF e-Learning)										
17.1. Principles of Project Management	X						-	-	B	B
18.3.2. Enterprise IAT/IAM 8570 Training TR: https://usafprod.skillport.com/							-	-	-	-
19. SECONDARY TRAINING DOCUMENTS										
19.1. Air Force Job Qualification Standards (JQS) and Qualification Training Packages (QTP) TR: https://usaf.dps.mil/teams/10445/default.aspx, https://www.youtube.com/channel/UCp7lrge1aHDA6wnEaXrdm5Q, https://aetc.adls.af.mil/login.aspx							-	-	-	-
19.2. Formal Training Courses TR: CFETP Section D Training Course Index; https://usaf.dps.mil/teams/10445/default.aspx							-	-	-	-

1. Implementation. This STS will be used for technical training provided by AETC for the 3-level course beginning on TBD.

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
1. NETWORK SYSTEMS OPERATIONS CAREER FIELD TR: 1D7X1A Learning Program (AF e-Learning); AFI 36-2101; CFETP; AFECD										
1.1. Duties of the AFSC	XA						A	A	-	-
2. MAINTENANCE PRACTICES TR: 1D7X1A Learning Program (AF e-Learning); TO 33K-1-100 and Applicable Test Equipment Technical Orders										
2.1. Test Equipment Theory										
2.1.1. Multimeter	XA						A	A	-	-
2.1.2. Time Domain Reflectometry							B	-	-	-
2.1.3. Optical Time Domain Reflectometry	XA						B	B	-	-
2.1.4. Bit Error Rate Testing							B	-	-	-
2.1.5. Spectrum Analyzer							-	-	-	-
2.1.6. Local Area Network (LAN) Test Set							A	-	-	-
2.1.7. Network/Protocol Analyzer (Sniffer)							B	-	-	-
2.1.8. Breakout Box							A	A	-	-
2.1.9. Fiber Optic Test Set (Light Source)							A	-	-	-
2.2. Perform Maintenance using Test Equipment										
2.2.1. Multimeter	XA						-	b	-	-
2.2.2. Time Domain Reflectometer (TDR)							-	-	-	-
2.2.3. Optical Time Domain Reflectometer (OTDR)	XA						-	b	-	-
2.2.4. Bit Error Rate Test Set (BERT)							-	-	-	-
2.2.5. Spectrum Analyzer							-	-	-	-
2.2.6. Local Area Network (LAN) Test Set							-	-	-	-
2.2.7. Network/Protocol Analyzer (Sniffer)							2b	-	-	-
2.2.8. Breakout Box							-	-	-	-
2.2.9. Fiber Optic Test Set (Light Source)							-	-	-	-
2.3. Standard Maintenance Concepts										
2.3.1. Inventory/Accountability Fundamentals							A	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
2.3.2. Maintenance Documentation	XA						A	A	-	-
2.3.3. Installation Standards	XA						A	A	-	-
2.3.4. Inspections (PMI)	XA						A	A	A	-
2.4. Troubleshooting										
2.4.1. Troubleshoot Network Equipment (IP Data, Voice, Video,							2b	-	-	-
2.4.2. Explain Land Line Concepts							A	-	-	-
2.4.3. Authorized Service Interruptions (ASIs)							b	b	-	-
2.5. Grounding										
2.5.1. Fundamentals	XA						B	B	-	-
2.5.2. Verify Proper Grounding (i.e. Equipment/Rack)	XA							b	-	-
2.5.3. Bonding							A	A	-	-
2.5.4. Shielding							-	A	-	-
2.5.5. Lightning Protection							A	A	-	-
2.6. Cable Installation/Management										
2.6.1. Fundamentals	XA						A	A	-	-
2.6.2. Circuit/Cable ID and Marking	XA						A	A	-	-
2.6.3. Color Coding Standards	XA						A	B	-	-
2.6.4. Physical Medium Standards							A	-	-	-
2.6.5. Patch Panels and Termination Points							A	-	-	-
2.6.6. Device Physical Interconnection	XA						-	B	-	-
2.6.7. Demonstrate Proper Cable Management Practices							2b	-	-	-
2.7. Cable Termination										
2.7.1. Fundamentals							A	-	-	-
2.7.2. Terminate Copper Ethernet Cable							2b	-	-	-
2.7.3. Fiber Termination							B	-	-	-
2.8. Electrostatic Discharge (ESD)										
2.8.1. Fundamentals	XA						A	A	-	-

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		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
2.8.2. Concepts	XA						-	A	-	-
2.8.3. Handling, Packaging, and Storing	XA						-	A	-	-
3. IP NETWORKING TR: 1D7X1A Learning Program (AF e-Learning)										
3.1. Internetworking Basics										
3.1.1. Fundamentals							A	-	-	-
3.1.2. OSI Reference Model							A	B	-	-
3.1.3. Topologies							A	B	-	-
3.2. IPv4/IPv6 Addressing										
3.2.1. Fundamentals							A	B	-	-
3.2.2. Develop/Apply IP Addressing Schema							2b	-	-	-
3.2.3. Fundamentals of Protocols							A	B	-	-
3.2.4. Network Protocols							A	B	-	-
3.3. Enterprise Networking										
3.3.1. Network Virtualization							B	-	-	-
3.3.2. Software Defined Networking							B	-	-	-
3.4. Layer 2 (Switching)										
3.4.1. Switching Application							B	B	-	-
3.4.2. Switching Standards							B	-	-	-
3.4.3. Configure Network Devices							2b	b	-	-
3.4.4. Link Aggregation							A	B	-	-
3.5. Layer 3 (Routing)										
3.5.1. Fundamentals							A	B	-	-
3.5.2. Protocol Application							B	C	-	-
3.5.3. Protocols/Standards							B	-	-	-
3.5.4. Configure Network Devices							2b	b	-	-
3.5.5. Configure Protocols							2b	b	-	-
3.5.6. VPN Concentrators							A	B	-	-
3.6. VLANs										
3.6.1. Fundamentals							B	B	-	-
3.6.2. Application							B	C	-	-
3.6.3. Administer							2b	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
3.7. Spanning Tree (STP)										
3.7.1. Fundamentals							A	B	-	-
3.7.2. Application							B	-	-	-
3.7.3. Configure							2b	-	-	-
3.7.4. IEEE 802 Standards							B	C	-	-
3.8. Wireless Networking (WLAN)										
3.8.1. Enterprise Wireless Network Application							B	-	-	-
3.8.2. Enterprise Wireless Protocols/Standards							B	-	-	-
3.8.3. Wireless Access Points Application							B	C	-	-
3.8.4. Configure Wireless Access Points							2b	b	-	-
3.9. Quality of Service (QoS)										
3.9.1. Fundamentals							A	B	-	-
3.9.2. DSCP Fundamentals							A	B	-	-
3.9.3. Configure							2b	-	-	-
3.9.4. Redundancy Fundamentals							A	B	-	-
3.10. IP Network Monitoring										
3.10.1. Network Management Software							B	-	-	-
3.10.2. SNMP							B	C	-	-
3.10.3. Network Traffic Analysis (sFlow, Netflow, jFlow)							B	C	-	-
3.10.4. Implement IP Network Monitoring							2b	-	-	-
3.10.5. Mobile Device Management							A	-	-	-
3.11. Enterprise Logical Security										
3.11.1. Application							B	C	-	-
3.11.2. Configure							2b	b	-	-
4. VOICE COMMUNICATIONS TR: 1D7X1A Learning Program (AF e-Learning); Applicable Commercial Manuals										
4.1. Telephony										
4.1.1. Telephony Fundamentals	XA						A	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
4.1.2. Voice Over Internet Protocol (VoIP)/ Voice Over Secure Internet Protocol (VoSIP) Fundamentals							A	B	-	-
4.1.3. Plain Old Telephone System (POTS)							A	-	-	-
4.1.4. Digital							A		-	-
4.1.5. Integrated Services Digital Network (ISDN)							A	B	-	-
4.1.6. SIP/H.323							A	-	-	-
4.1.7. Voice/Video Compression Standards							-	A	-	-
4.1.8. Configure VoIP Phone							2b	-	-	-
4.2. Call Routing										
4.2.1. Fundamentals							A	-	-	-
4.2.2. Configure							2b	-	-	-
4.2.3. Customer Groups							A	-	-	-
4.2.4. Multilevel Precedence and Preemption (MLPP)							A	-	-	-
4.2.5. Class of Service							A	-	-	-
4.2.6. Defense Switched Network (DSN)							A	-	-	-
4.2.7. Translations							A	-	-	-
4.2.8. Configure Telephony Features							2b	-	-	-
4.2.9. Direct Inward Dialing (DID)							A	-	-	-
4.2.10. Caller ID							A	-	-	-
4.2.11. Video Teleconferencing (VTC)							A	-	-	-
4.3. Telephony Switching										
4.3.1. Concepts							A	B	-	-
4.3.2. Switch Security	XA						-	A	-	-
4.3.3. 911/E-911							A	-	-	-
5. ENTERPRISE ADMINISTRATIVE FUNCTIONS TR: 1D7X1A Learning Program (AF e-Learning)										
5.1. Fundamentals of IT										
5.1.1. Fundamentals of IT Documentation							B	B	-	-
5.1.2. Service Level Agreements (SLAs)							A	A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
5.1.3. Project Support Agreement (PSA)							-	A	-	-
5.2. Communications Network Trend Analysis										
5.2.1. Identify							-	B	-	-
5.2.2. Analyze							-	B	-	-
5.3. Communications Security (COMSEC)										
5.3.1. Principles	XA						A	B	-	-
5.3.2. Red/Black	XA						A	B	-	-
5.3.3. Perform COMSEC Inventory							2b	-	-	-
5.3.4. Perform Over the Air Rekey (OTAR)							2b	-	-	-
5.3.5. Perform Key Transfer Using Common Fill Device							2b	-	-	-
5.3.6. TEMPEST							-	B	-	-
6. ENCRYPTION/DECRYPTION TR: 1D7X1A Learning Program (AF e-Learning)										
6.1. Crypto Devices										
6.1.1. Fundamentals							A	-	-	-
6.1.2. Configure/Use Serial Crypto Equipment							2b	-	-	-
6.1.3. Configure/Use IP Crypto Equipment							2b	-	-	-
6.2. Crypto Keys										
6.2.1. Pre Placed Key (PPK)							A	-	-	-
6.2.2. Firefly Vector Set (FFVS)							A	-	-	-
7. CRITICAL COMMUNICATIONS FACILITIES POWER SYSTEMS TR: 1D7X1A Learning Program (AF e-Learning); Applicable Commercial Manuals										
7.1. Power Systems										
7.1.1. Uninterrupted Power Supplies (UPS)	XA						A	B	-	-
7.1.2. Facility Battery Backups	XA						A	B	-	-
7.1.3. Generators	XA						A	B	-	-
8. LONG HAUL COMMUNICATIONS TR: 1D7X1A Learning Program (AF e-Learning)										
8.1. Long Haul Modulation										
8.1.1. Modulation							A	A	-	-
8.2. Multiplexing										
8.2.1. Fundamentals							A	A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
8.2.2. Timing							B	B	-	-
8.2.3. Signaling							A	B	-	-
8.3. Circuit Patching										
8.3.1. Concepts							A	-	-	-
8.3.2. Perform Patching							2b	-	-	-
8.4. Contingency Plans										
8.4.1. Contingency Planning & Implementation							A	-	-	-
8.4.2. Develop	XA						-	-	-	-
8.4.3. Communication Requirements Process	XA						-	-	-	-
8.4.4. Gateway Access Request/Gateway Access Authorization (GAR/GAA)							-	A	-	-
8.5. Circuit Actions										
8.5.1. Responsibilities	XA						-	A	-	-
8.5.2. Node Site Coordinator	XA						-	A	-	-
8.5.3. Completion Reports	XA						-	-	A	-
8.5.4. Circuit History Folders	XA						A	-	A	-
8.6. Circuit										
8.6.1. Procurement/ Change Process							B	-	-	-
8.6.2. Telecommunications Service Requests (TSRs)							B	-	-	-
8.6.3. Telecommunications Service Order (TSOs)							B	-	-	-
8.6.4. Telecommunications Service Priority (TSPs)							B	-	-	-
8.6.5. Command Communication Service Designator (CCSDs)							B	-	-	-
8.7. Maintenance Tracking Software										
8.7.1. Fundamentals							B	-	-	-
8.7.2. Use Tracking Software							2b	-	-	-
9. INFORMATION PROTECTION OPERATIONS TR: 1D7X1A Learning Program (AF e-Learning)										
9.1. Security										
9.1.1. Information Protection Principles							A	A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
9.1.2. Rules of Engagement							A	-	-	-
9.1.3. Assessment and Authorization							A	-	-	-
9.1.4. Event Response							A	-	-	-
9.1.5. Security Patch Implementation							A	-	-	-
9.1.6. Malicious Logic Protection							A	-	-	-
9.2. Defense in Depth										
9.2.1. Concept	XA						A	B	-	-
9.2.2. Steps							A	-	-	-
9.3. Boundary Protection										
9.3.1. Principles							B	B	-	-
9.3.2. Firewalls							A	B	-	-
9.3.3. Intrusion Detection							A	B	-	-
9.3.4. Misuse Detection							A	B	-	-
9.3.5. Internal Control							A	B	-	-
9.3.6. Access Prevention							A	B	-	-
9.3.7. Authentication							A	B	-	-
9.3.8. Encryption							A	B	-	-
9.3.9. Network Vulnerabilities/Mitigation							A	B	-	-
9.3.10. Voice Protection System (VPS)							A	B	-	-
10. EXPEDITIONARY COMMUNICATIONS CONCEPTS TR: 1D7X1A Learning Program (AF e-Learning); MAJCOM/Local Procedures; Applicable Commercial Manuals										
10.1. Expeditionary Communications Connections										
10.1.1. Establish IP Network							2b	-	-	-
10.1.2. Establish Voice Network							2b	-	-	-
11. SYSTEMS OPERATIONS CAREER FIELD TR: 1D7X1B Learning Program (AF e-Learning); AFH 33-337; AFIs 10-401, 33-100, 33-101, 33-115, 33-150; 36-2101; CFETP; AFECD										
11.1. Duties of AFSC	XB						A	A	-	-
12. AFCYBER WEAPONS SYSTEMS TR: 1D7X1B Learning Program (AF e-Learning)										
12.1. Overview	XB						A	A	-	-
12.2. Capabilities	XB						A	A	-	-
13. INFORMATION TECHNOLOGY SYSTEMS FUNDAMENTALS TR: 1D7X1B Learning Program (AF e-Learning)										
13.1. Programming Languages	XB						A	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
13.2. Graphical User Interfaces (GUI)	XB						A	B	-	-
13.3. Cross Domain Data Solutions	XB						A	A	-	-
13.4. Memory Structure	XB						A	B	-	-
13.5. Interrupt Requests (IRQ)	XB						A	B	-	-
13.6. Drivers	XB						A	B	-	-
13.7. Basic Input/Output System (BIOS)	XB						A	B	-	-
13.8. Memory	XB						A	B	-	-
13.9. Complementary Metal Oxide Semiconductor (CMOS)	XB						A	B	-	-
14. SERVERS TR: 1D7X1B Learning Program (AF e-Learning)										
14.1. Hardware										
14.1.1. Storage Types	XB						B	B	-	-
14.1.2. Configure System Storage	XB						A	B	-	-
14.1.3. I/O Technologies							A	B	-	-
14.1.4. Blade/Backplane Technologies	XB						A	B	-	-
14.2. Virtualization Overview										
14.2.1. Concepts	XB						B	B	-	-
14.2.2. Server Virtualization	XB						B	B	-	-
14.2.3. Virtualization Environment	XB						B	B	-	-
14.2.4. Client Virtualization	XB						B	B	-	-
14.2.5. Implement Virtualization							2b	-	-	-
14.3. Cloud Computing										
14.3.1. Definition							A	-	-	-
14.3.2. Characteristics							A	B	-	-
14.3.3. Service Model Types							A	B	-	-
14.3.4. Deployment Models Types							A	B	-	-
14.3.5. Benefits							A	B	-	-
14.3.6. Implementation Considerations							-	A	-	-
14.4. Software										
14.4.1. Enterprise Services							2b	b	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
14.4.2. Ports, Protocols & Services (PPS)							A	B	-	-
14.4.3. Operating Systems										
14.4.3.1. Types and Characteristics	XB						B	B	-	-
14.4.3.2. PMO Systems	XB						B	B	-	-
14.4.3.3. Common Server Roles	XB						2b	b	-	-
14.4.3.4. Shell	XB						2b	b	-	-
14.4.3.5. Scripting	XB						2b	c	-	-
14.4.3.6. Basic Cmd Line Programs	XB						2b	b	-	-
14.4.3.7. Account Management	XB						2b	b	-	-
14.4.3.8. Hardening	XB						2b	b	-	-
14.4.3.9. Process Management	XB						2b	b	-	-
14.4.4. Applications										
14.4.4.1. USAF Functional & Mission Systems							-	-	-	-
14.4.4.2. Support Systems							-	-	-	-
14.4.4.3. Collaborative Tools							-	-	-	-
14.4.4.4. Server Management Systems							-	-	-	-
14.4.4.5. Server Information Protection							-	-	-	-
14.4.4.6. Remote Access							-	-	-	-
14.4.5. Database										
14.4.5.1. Flat File							A	B	-	-
14.4.5.2. Relational							A	B	-	-
14.4.5.3. NOSQL							A	B	-	-
14.4.5.4. Schema							A	B	-	-
14.4.5.5. SQL Query and Reports							2b	-	-	-
14.4.6. Web Fundamentals										
14.4.6.1. Language Types							B	B	-	-
14.4.6.2. Web Services							A	B	-	-
14.4.6.3. Web Security										
14.4.6.3.1. Session Management							A	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
14.4.6.3.2. Secure Socket Layer (SSL)							B	-	-	-
14.4.6.3.3. Transport Layer Security (TLS)							B	-	-	-
14.5. Disaster/Contingency/ Operational/Crisis										
14.5.1. Backup/Restore Process							A	B	-	-
14.5.2. Offsite Storage							A	B	-	-
14.5.3. Continuity of Operations (COOP)							A	B	-	-
14.5.4. Priority Restoration Plan							A	B	-	-
14.5.5. Alternate Power							A	B	-	-
14.5.6. Startup and Shutdown Procedures	XB						2b	b	-	-
14.6. Service and Trouble Management System TR: AFJQS1D7XX-230T, AFJQSXXXXX-212S	XB						-	B	-	-
15. NETWORKED SYSTEMS TR: 1D7X1B Learning Program (AF e-Learning)										
15.1. Overview							A	B	-	-
15.2. Definition							A	B	-	-
15.3. Network Authentication										
15.3.1. Components of Public Key Infrastructure (PKI)							A	B	-	-
15.3.2. Biometrics	XB						A	B	-	-
15.3.3. Username/Password	XB						A	B	-	-
15.4. Network Addressing	XB						A	B	-	-
15.5. Systems Management	XB						A	B	-	-
15.6. Event Response										
15.6.1. Incident/Event Reporting	XB						A	B	-	-
15.6.2. Perform Incident Response	XB						2b	b	-	-
15.7. Network Operations (NetOps) Monitoring										
15.7.1. Monitor System Resources	XB						2b	b	-	-
15.7.2. Identify Event Logging Tools							A	B	-	-
16. EXPEDITIONARY COMMUNICATIONS TR: 1D7X1B Learning Program (AF e-Learning)										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
16.1. Deployable Communications Systems Support (e.g.TDC)										
16.1.1. Mission							-	B	-	-
16.1.2. Employment Concepts							-	B	-	-
16.1.3. Capabilities							-	B	-	-
16.1.4. Interfacing Considerations							-	B	-	-
16.2. TDC Deployment										
16.2.1. Pre Deployment							-	B	-	-
16.2.2. Deployment							-	B	-	-
16.2.3. Establish Services							-	B	-	-
16.2.4. Extended Services							-	B	-	-
16.2.5. Re Deployment							-	B	-	-
16.2.6. Reconstitute							-	B	-	-
17. BOUNDARY INTERACTION TR: 1D7X1B Learning Program (AF e-Learning)										
17.1. Types and Characteristics	XB						B	B	-	-
17.2. Boundary Interaction Tools							A	B	-	-
18. VULNERABILITY MANAGEMENT TR: 1D7X1B Learning Program (AF e-Learning)										
18.1. Air Force Standard Vulnerability Assessment (VA)										
18.1.1. Functions	XB						A	B	-	-
18.1.2. Base Roles							A	B	-	-
18.1.3. NOS Roles							A	B	-	-
18.1.4. Describe Command Cyber Readiness (CCRI) DISA requirements							A	B	-	-
18.1.5. Describe Assessment & Authorizations (A&A) Requirements							A	B	-	-
18.2. Air Force Standard Vulnerability Assessment (VA) Tools										
18.2.1. Functions and Capabilities							B	B	-	-
18.2.2. Review a Vulnerability Scan	XB						2b	b	-	-
18.2.3. STIG Compliance Requirements										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
18.2.3.1. STIG Viewer							A	-	-	-
18.2.3.2. Employing a STIG							A	-	-	-
18.2.3.3. STIG Compliance Scanning Tool							A	-	-	-
18.2.4. Best Practice for VA Tools							A	B	-	-
18.3. Patch Management										
18.3.1. Purpose							A	B	-	-
18.3.2. Client Install and Uninstall							2b	-	-	-
18.3.3. Install Security Patches							2b	-	-	-
18.3.4. Utilize Dashboard for Reporting							2b	-	-	-
19. INTRUSION CONTROLS TR: 1D7X1B Learning Program (AF e-Learning)										
19.1. Types and Characteristics	XB						A	B	-	-
19.2. Intrusion Detection Methods	XB						B	B	-	-
19.3. Intrusion Detection Tools	XB						B	B	-	-
19.4. Respond to an Incident							2b	-	-	-
19.5. End Point Protection										
19.5.1. Functions	XB						A	B	-	-
19.5.2. Manage							2b	-	-	-
19.6. Network Based Intrusion Detection System Functions	XB						A	B	-	-
20. TROUBLESHOOTING TR: 1D7X1B Learning Program (AF e-Learning)										
20.1. Hardware	XB						-	b	-	-
20.2. OS and Applications	XB						2b	b	-	-
20.3. OS and Startup Problems	XB						2b	b	-	-
20.4. Network	XB						2b	b	-	-
21. SECURITY OPERATIONS CAREER FIELD TR: 1D7X1D Learning Program (AF e-Learning); AFIs 17-130, 33-150, 36-2101; AFGM2018 1702; 1D7XX CFETP; AFECD										
21.1. Duties of the AFSC	XD						A	A	-	-
22. CYBER COLLABORATION, PUBLICATIONS, DIRECTIVES TR: 1D7X1D Learning Program (AF e-Learning); AFI 33-360										
22.1. Publications	XD						A	B	-	-
22.2. Guidance Currency	XD						A	A	-	-
22.3. Cyber Taskings	XD						A	A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
22.4. Collaborative Environments	XD						A	B	-	-
23. IDENTITY CREDENTIALING & ACCESS MANAGEMENT (ICAM) TR: 1D7X1D Learning Program (AF e-Learning); AFMAN 17-1304 (in development)										
23.1. Roles and Responsibilities							-	-	-	-
23.2. Essential Components and Factors of ICAM Program	XD						A	A	-	-
24. COMPUTER SECURITY (COMPUSEC) TR: 1D7X1D Learning Program (AF e-Learning); AFI 17-130, AFMAN 171301, MPTO 00-33B-5006										
24.1. Training and Resources	XD						A	A	-	-
24.2. End Point Security	XD						A	B	-	-
24.3. COMPUSEC Assessments	XD						A	A	-	-
25. RISK MANAGEMENT FRAMEWORK (RMF) TR: 1D7X1D Learning Program (AF e-Learning); RMF Knowledge Service; AFI 17-101; DoD 8510.01; FIPS 199, 200; NSPs SP 800-53, 800-37, 800-53A, 800-60, 800-64; CNSSI 1253										
25.1. Program Overview	XD						A	A	-	-
25.2. Air Force IT Category (AFI driven)/DoD IT Types (DoD driven)	XD						A	A	-	-
25.3. Security Objectives	XD						A	B	-	-
25.4. Roles and Responsibilities	XD						A	B	-	-
25.5. System Development Lifecycle	XD						A	A	-	-
25.6. RMF Methodology										
25.6.1. RMF Step, PREPARE System	XD						A	A	-	-
25.6.2. RMF Step, CATEGORIZE System	XD						A	A	-	-
25.6.3. RMF Step, SELECT Security Controls	XD						A	A	-	-
25.6.4. RMF Step, IMPLEMENT Security Controls	XD						A	B	-	-
25.6.5. RMF Step, ASSESS Security Controls	XD						A	B	-	-
25.6.6. RMF Step, AUTHORIZE System	XD						A	A	-	-
25.6.7. RMF Step, MONITOR Security Controls	XD						A	A	-	-
26. CONSENT TO MONITORING FOR OFFICIAL IT RESOURCES TR: 1D7X1D Learning Program (AF e-Learning); AFI 10-701										
26.1. Overview	XD						A	A	-	-
26.2. Notice and Consent	XD						A	B	-	-
27. REMANENCE SECURITY TR: 1D7X1D Learning Program (AF e-Learning); AFI 17-301, NSA Media Destruction Guidance: MPTO 00-33B-5006										
27.1. Introduction	XD						A	A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
27.2. Risk Assessment	XD						-	A	-	-
27.3. Risk Management	XD						-	A	-	-
27.4. Sanitization										
27.4.1. Unclassified Devices	XD						A	B	-	-
27.4.2. Classified Devices	XD						A	B	-	-
27.5. Media Reuse	XD						A	A	-	-
27.6. Disposal	XD						A	B	-	-
27.7. Mixed Media Devices	XD						A	A	-	-
27.8. Degauser Calibration and Testing	XD						-	A	-	-
28. TEMPEST PROGRAM MANAGEMENT TR: 1D7X1D Learning Program (AF e-Learning); AFI 17-130; AFMANs 17-1305 Vol 1 (Unclass) & Vol 2 (Classified) (in development), 33-214 (Classified) (IACE: http://intelshare.intelink.sgov.gov/sites/af_cybersecurity/SitePages/Home.aspx); Emission Security handbook; DISA Wireless STIG; MPTOs 00-33B-2861, 00-33B-2862, 00-33B-2863; AFSSIs 7700, 7702, 7703; TEMPEST Wiki: https://cs2.eis.af.mil/sites/10060/Wiki/TEMPEST.aspx										
28.1. Overview	XD						A	A	-	-
28.2. Roles and Responsibilities	XD						A	B	-	-
28.3. TEMPEST Information Messages	XD						A	A	-	-
29. TOOLS TR: 1D7X1D Learning Program (AF e-Learning)										
29.1. Assessment and Authorization Tools	XD						A	A	-	-
29.2. Vulnerability Management Tools	XD						A	B	-	-
30. COMMUNICATIONS SECURITY (COMSEC) MANAGEMENT TR: 1D7X1D Learning Program (AF e-Learning); AFI 17-130, AFMAN 1-71302-O, TO 00-33-B-5001, AF COMSEC ACCOUNTING PROCEDURES, AFSSIs 3000-series; DOC 042-12; CNSSIs 4003, 4004, 4005; DoDI 5210.82; CJCSIs 3260.01, 3260.02										
30.1. Overview										
30.1.1. Purpose	XD						A	A	-	-
30.1.2. Management Terms	XD						A	A	-	-
30.1.3. COMSEC Architecture within the COMSEC Chain of Command							A	-	-	-
30.1.4. COMSEC Material Distribution	XD						A	A	-	-
30.1.5. Automated COMSEC Programs	XD						A	A	-	-
30.2. COMSEC Role Requirements/Responsibilities										
30.2.1. KMI Operating Account Manager (KOAM)							A	A	A	-
30.2.2. COMSEC Accountants/COMSEC Clerks	XD						A	A	-	-
30.2.3. Role Exclusion							A	A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
30.2.4. Account Personnel Changeover							-	-	-	-
30.3. Administration and Management of COMSEC Material										
30.3.1. Information Dissemination Process	XD						-	A	-	-
30.3.2. Procedures and Process Management										
30.3.2.1. COMSEC Material Request	XD						-	B	-	-
30.3.2.2. COMSEC Material Issuance	XD						-	B	-	-
30.3.2.3. Record Maintenance and Disposition	XD						-	A	-	-
30.3.2.4. Request KMI Technical Service Center (TSC) Support							-	-	-	-
30.3.2.5. COMSEC Equipment Request							-	B	-	-
30.3.2.6. COMSEC Material Replacement (Request, etc…)							-	B	-	-
30.3.2.7. Disposition Instructions for Increase/Surplus Material	XD						-	B	-	-
30.3.3. COMSEC Training Program										
30.3.3.1. COMSEC Training Program Management							-	B	-	-
30.3.3.2. AF Form 4168, COMSEC Users Training							-	B	-	-
30.3.4. Additional Protection Measures (Photography, Personal Electronics, Public Display)	XD						A	B	-	-
30.3.5. Accounting Legend Codes (ALC)	XD						A	B	-	-
30.3.6. Account Management										
30.3.6.1. Account Information Letter	XD						-	A	-	-
30.3.6.2. Notification of Existence of COMSEC Account Letter	XD						-	A	-	-
30.3.7. In-Place Date	XD						-	A	-	-
30.4. Cryptographic Access Program (CAP)										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
30.4.1. Purpose	XD						A	A	-	-
30.4.2. Program Management	XD						-	A	-	-
30.5. Physical Security Principles for Handling COMSEC Material										
30.5.1. Authorized Access	XD						A	B	-	-
30.5.2. Preventative Maintenance Inspections (PMIs)							-	B	-	-
30.5.3. Protective Technologies Overview	XD						-	-	-	-
30.5.4. Physical Security Handling Requirements	XD						-	B	-	-
30.5.5. COMSEC Forms	XD						A	B	-	-
30.5.6. COMSEC Access List	XD						A	B	-	-
30.5.7. COMSEC Publication Amendments	XD						-	-	-	-
30.6. Destruction of COMSEC Material, Aids and Equipment										
30.6.1. Disposition	XD						A	A	-	-
30.6.2. Destruction	XD						B	B	-	-
30.7. Controlled Cryptographic Items (CCIs)										
30.7.1. Safeguard and Accountability	XD						-	B	-	-
30.7.2. Transportation / Shipping	XD						-	A	-	-
30.8. Control of Top Secret (TS) Keying Material										
30.8.1. COMSEC No Lone Zone Exceptions	XD						A	A	-	-
30.8.2. Two Person Integrity (TPI) Handling Procedures	XD						A	B	-	-
30.8.3. TPI Material Storage Requirements	XD						A	B	-	-
30.8.4. Tactical Situations Storage Requirements	XD						-	A	-	-
30.8.5. Transportation Requirements for TPI	XD						A	A	-	-
30.9. COMSEC Nuclear Surety										
30.10. COMSEC Keying Material Transportation Requirements							A	B	-	-
30.11. Emergency Action Plans (EAPs)							A	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
30.12. COMSEC Incidents										
30.12.1. Introduction							A	-	-	-
30.12.2. Incident Types/ Concepts	XD						-	A	-	-
30.12.3. Incident Reporting	XD						-	A	-	-
30.12.4. Disposal of Material Involved in a COMSEC Incident	XD						-	B	-	-
30.12.5. Report Submission Process	XD						-	B	-	-
30.13. COMSEC Audits	XD						A	B	-	-
30.14. Secure Voice Program	XD						A	B	-	-
31. CYBER SYSTEMS FAMILIARIZATION TR: 1D7X1D Learning Program (AF e-Learning); Skill Capability Pathfinder										
31.1. Virtualization Fundamentals										
31.1.1. Concepts	XD						A	A	-	-
31.1.2. Server Virtualization	XD						A	A	-	-
31.1.3. Virtualization Environment	XD						A	A	-	-
31.1.4. Client Virtualization	XD						A	A	-	-
31.2. Cloud Computing Fundamentals										
31.2.1. Definition							A	A	-	-
31.2.2. Characteristics							A	A	-	-
31.2.3. Service Model Types							A	A	-	-
31.2.4. Deployment Models Types							A	A	-	-
31.2.5. Benefits							A	A	-	-
31.3. Operating Systems Fundamentals										
31.3.1. Types of Characteristics	XD						A	A	-	-
31.3.2. Scripting	XD						A	A	-	-
31.4. Database Fundamentals										
31.4.1. Flat File							A	A	-	-
31.4.2. Relational							A	A	-	-
31.4.3. NOSQL (Non-relational)							A	A	-	-
31.4.4. Schema							A	A	-	-
31.5. Web Fundamentals										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
31.5.1. Language Types							A	A	-	-
31.5.2. Web Services							A	A	-	-
31.6. Web Security Fundamentals										
31.6.1. Session Management							A	A	-	-
31.6.2. Secure Socket Layer							A	A	-	-
31.7. Network/System Fundamentals										
31.7.1. Overview							A	A	-	-
31.7.2. Definition							A	A	-	-
31.7.3. Patch Management Purpose							A	A	-	-
31.7.4. Ports, Protocols & Services							A	A	-	-
31.8. Network Authentication Fundamentals										
31.8.1. Components of Public Key Infrastructure (PKI)							A	A	-	-
31.8.2. Biometrics	XD						A	A	-	-
31.8.3. Username/Password	XD						A	A	-	-
31.8.4. Systems Management							A	A	-	-
31.9. Event Response Fundamentals										
31.9.1. Incident/Event Reporting	XD						A	A	-	-
31.10. Network Operations (NetOps) Monitoring Fundamentals										
31.10.1. Identify Event Logging Tools							A	A	-	-
31.11. Vulnerabilities Management Fundamentals										
31.11.1. Functions	XD						A	A	-	-
31.11.2. Base Roles							A	A	-	-
31.11.3. NOS Roles							A	A	-	-
31.11.4. Describe Assessment and Authorizations (A&A) Requirements							A	A	-	-
31.12. Intrusion Controls Fundamentals										
31.12.1. Types and Characteristics	XD						A	A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
31.12.2. Intrusion Detection Methods	XD						A	A	-	-
31.12.3. Intrusion Detection Tools	XD						A	A	-	-
31.12.4. Boundary Interaction Tools							A	A	-	-
31.13. End Point Protection Fundamentals										
31.13.1. Functions	XD						A	A	-	-
31.13.2. Network Based Intrusion Detection System Functions	XD						A	A	-	-
32. CLIENT SYSTEMS OPERATIONS CAREER FIELD TR: 1D7X1E Learning Program (AF e-Learning); CFETP; AFECD										
32.1. Explain duties of AFSC	XE						A	B	-	-
33. SAFETY/RISK MANAGEMENT (RM) TR: 1D7X1E Learning Program (AF e-Learning); AFI 90-802; AFPAM 90-803										
33.1. Air Force Safety, Fire, and Health Standards for AFSC	XE						A	A	-	-
33.2. Hazards of the AFSC	XE						A	A	-	-
34. OPERATIONAL PROCEDURES TR: 1D7X1E Learning Program (AF e-Learning); AFI 32-1065, American Public Works Association Policy and American National St; MIL STD 2000A; TOs 00-25-234-WA-1; 31-1-141-1-WA-1; 31-10-7-WA-1; 31-10-11-WA-1; 31-10-13; 31-10-24-WA-1; and 31W3-10-20										
34.1. Standard Maintenance Practices										
34.1.1. Use Publications when Performing Work	XE						2b	b	-	-
34.1.2. End User Support	XE						2b	b	-	-
34.1.3. TEMPEST							-	B	-	-
34.1.4. Wire Color-Coding Standards	XE						A	B	-	-
34.1.5. Construct Copper Ethernet Cable							2b	-	-	-
34.1.6. Fiber Optics Concepts							A	A	-	-
34.1.7. Storage Media Sanitization	XE						A	A	-	-
34.1.8. Fundamentals of IT Documentation	XE						B	B	-	-
34.1.9. Fundamentals of Maintenance Documentation							A	A	-	-
34.2. Specialized Tools TR: Applicable Technical Publications										
34.2.1. Crimp Tool							a	a	-	-
34.2.2. Tone Generator							a	a	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
34.2.3. Inductive Amplifier							a	a	-	-
34.2.4. LAN Tester							a	a	-	-
34.2.5. Light Source							a	a	-	-
34.2.6. Use Crimp Tool							2b	-	-	-
34.2.7. Use Networking Tools (i.e., LAN Tester, Cable Tester)							2b	-	-	-
35. SOFTWARE TR: 1D7X1E Learning Program (AF e-Learning); MAJCOM/Local Procedures; Applicable Technical Publications										
35.1. Windows Operating System (OS)										
35.1.1. Purpose	XE						A	A	-	-
35.1.2. Pre-Installation Requirements	XE						A	A	-	-
35.1.3. Operating System Image Management	XE						b	b	-	-
35.1.4. Install Approved Workstation Standard Image	XE						2b	b	-	-
35.1.5. Virtual Desktop Interface (VDI)							B	-	-	-
35.2. Account Management TR: AFI 17-130; TO 00-33A-1202; AFNET Procedures; AFJQS 1D7XX-200DR										
35.2.1. Account Management Systems	XE						B	B	-	-
35.2.2. Manage Computer Accounts							2b	-	-	-
35.2.3. Account Types							A	-	-	-
35.3. Access Management										
35.3.1. Add to Domain	XE						2b	b	-	-
35.3.2. Manage Security Groups							2b	-	-	-
35.3.3. Manage Limited Access Accounts							2b	-	-	-
35.3.4. Group Policy										
35.3.4.1. Principles	XE						B	B	-	-
35.3.4.2. Query Group Policies							-	b	-	-
35.3.4.3. Apply Group Policy							2b	-	-	-
35.4. Applications										
35.4.1. Cyber Sustainment										
35.4.1.1. Install and Configure General Client Applications	XE						2b	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
35.4.1.2. Software Updates	XE						B	B	-	-
35.4.2. Cyber Hygiene										
35.4.2.1. Cyber Vulnerability Management	XE						2b	b	-	-
35.4.2.2. Install and Configure Anti-virus Software and Virus Definitions	XE						2b	b	-	-
35.4.2.3. Harden Device	XE						2b	b	-	-
35.4.3. Specialized Software										
35.4.3.1. Install and Configure Specialized Client Applications	XE						B	-	-	-
35.4.3.2. Software Management Policies	XE						A	B	-	-
35.5. Mobile Devices										
35.5.1. Cross-Platform Software Solutions	XE						B	-	-	-
35.5.2. Mobile Device Management	XE						B	-	-	-
35.6. Troubleshooting Software										
35.6.1. System Recovery										
35.6.1.1. Backup Methods	XE						B	A	-	-
35.6.1.2. Recovery Methods	XE						B	A	-	-
35.6.1.3. Perform User Data Backup							2b	-	-	-
35.6.2. Use Remote Tools	XE						2b	-	-	-
35.6.3. Powershell and Scripting							B	-	-	-
35.6.4. Use Control Panel Functions	XE						2b	-	-	-
35.6.5. Use Computer Management Tools	XE						2b	-	-	-
36. HARDWARE TR: 1D7X1E Learning Program (AF e-Learning); MAJCOM/Local Procedures; AF e-Learning CBT: A+ 220-1001: Installing Hardware and Display Components; Commercial Manuals; Applicable Technical Publications										
36.1. Client Systems										
36.1.1. Theory of Operation	XE						B	B	-	-
36.1.2. Major Components	XE						B	B	-	-
36.1.3. Peripheral Devices							A	A	-	-
36.2. Electrostatic Discharge (ESD)										
36.2.1. Fundamentals	XE						A	A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
36.2.2. Concepts	XE						-	A	-	-
36.2.3. Handling, Packaging, and Storing	XE						-	-	-	-
36.3. Install Hardware in a Client System	XE						2b	-	-	-
36.4. Troubleshooting Hardware							2b	-	-	-
37. LOCAL & NETWORKED SOLUTIONS TR: 1D7X1E Learning Program (AF e-Learning); MAJCOM/Local Procedures; Applicable Technical Publications; AF e-Learning CBTs: Networking Fundamentals: Configuring Wired and Wireless Networks and Firewalls; CompTIA A+ 220-1001: Configuring a Wired/Wireless Network; CompTIA A+ 220-1001: Networking; CompTIA A+ 220-1001: Network Types										
37.1. Network Theory	XE						B	B	-	-
37.2. Wireless Connectivity	XE						B	B	-	-
37.3. Configure Wireless Access							2b	-	-	-
37.4. Network Connected Devices										
37.4.1. Add Device to Network	XE						2b	b	-	-
37.4.2. Configure Multifunction Devices							2b	-	-	-
37.4.3. Map Client System to Network Device	XE						2b	b	-	-
37.5. Virtual Private Network (VPN)										
37.5.1. Concepts							B	B	-	-
37.5.2. Install and Configure Air Force Approved VPN	XE						2b	-	-	-
37.6. Troubleshooting Network	XE						2b	-	-	-
38. KNOWLEDGE OPERATIONS CAREER FIELD TR: 1D7X1K Learning Program (AF e-Learning); AFMAN 33-396; AFH 36-2618; AFECD										
38.1. Duties of the AFSC	XK						B	B	-	-
38.2. Knowledge Management Center (KMC)										
38.2.1. Overview	XK						B	B	-	-
38.2.2. Responsibilities	XK						B	B	-	-
38.2.3. Leadership	XK						B	B	-	-
38.2.4. Continuity	XK						B	B	-	-
38.2.5. KMWG support (MAJCOM and AF levels)	XK						-	B	-	-
38.3. Roles and Responsibilities										
38.3.1. Sustained Roles	XK						B	B	-	-
38.3.2. Mobile Roles	XK						B	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
39. KNOWLEDGE MANAGEMENT CORE COMPETENCIES TR: 1D7X1K Learning Program (AF e-Learning); AFMAN 33-396										
39.1. Operationalized Knowledge Management										
39.1.1. Purpose	XK						-	B	-	-
39.1.2. People, Processes, and Tools	XK						-	B	-	-
39.1.3. Elicit User Requirements	XK						-	B	-	-
39.1.4. Solutions Design, Build, Test, and Deploy	XK						-	B	B	-
39.2. Agile Learning										
39.2.1. Best Practice Identification / Sharing	XK						-	B	-	-
39.2.2. Change Management	XK						-	B	-	-
39.2.3. Critical Thinking	XK						-	B	-	-
39.2.4. Knowledge Capture	XK						-	B	B	-
39.2.5. Lessons Learned	XK						-	B	-	-
39.3. Decision Cycle										
39.3.1. 7-min Drills	XK						-	b	b	-
39.3.2. Battle Rhythm Mapping / Management	XK						-	b	b	-
39.3.3. Decision Support Systems	XK						-	B	-	-
39.3.4. Knowledge / Concept Mapping	XK						-	b	b	-
39.3.5. Meeting Management	XK						-	b	b	-
39.4. Enhance Performance										
39.4.1. Analytics	XK						-	B	-	-
39.4.2. Expertise Tracking / Marketing	XK						-	B	-	-
39.4.3. Innovation Management	XK						-	B	-	-
39.4.4. KM Assessments	XK						-	b	b	-
39.4.5. Knowledge Engineering	XK						-	B	-	-
39.4.6. Metrics and Measurement	XK						-	B	-	-
39.4.7. Project Management	XK						-	A	-	-
39.4.8. Roles / Responsibility Capture (RACI)	XK						-	b	b	-
39.4.9. Task Tracking Methodologies	XK						-	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
39.4.10. Work Methodology (agile, Kanban, capture)	XK						-	B	B	-
39.5. KM Program Management										
39.5.1. Establishment of KM Battle Rhythm events	XK						-	b	b	-
39.5.2. KM Doctrine	XK						-	b	b	-
39.5.3. KM Fundamentals	XK						-	B	B	-
39.5.4. KM Governance	XK						-	B	B	-
39.5.5. KM Plan / Strategy	XK						-	b	b	-
39.5.6. KM Roles	XK						-	B	B	-
39.5.7. KM Training	XK						-	B	B	-
39.5.8. Knowledge Worker Concept	XK						-	B	B	-
39.5.9. Leadership Endorsement / Support	XK						-	B	-	-
39.6. Shared Understanding										
39.6.1. Brainstorming Methods	XK						-	B	B	-
39.6.2. Collaboration Tools & Environments	XK						B	B	B	-
39.6.3. Communication Plans	XK						-	b	-	-
39.6.4. Communication Skills	XK						-	B	-	-
39.6.5. Communities of Practice (virtual/physical)	XK						-	B	-	-
39.6.6. Content Management	XK						-	B	B	-
39.6.7. Dashboards	XK						-	B	-	-
39.6.8. Knowledge Dissemination	XK						-	b	b	-
39.6.9. Portal Content Design	XK						-	B	-	-
39.6.10. Social Business Platforms	XK						-	B	B	-
39.6.11. Visualization of Information	XK						-	B	B	-
40. ENTERPRISE INFORMATION SERVICES (EIS) TR: 1D7X1K Learning Program (AF e-Learning); AFMAN 33-396; https://www.milsuite.mil/; https://www.usability.gov/about-us/index.html AF e- Learning SharePoint 2013 ISBN #9781118510711; SharePoint 2010 ISBN #9781118105054; AFJQS1D7XX-225S SharePoint										
40.1. Overview										
40.1.1. Information Concepts	XK						B	B	-	-
40.1.2. Types of Services	XK						B	B	-	-
40.1.3. Standards	XK						B	B	-	-
40.2. SharePoint										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
40.2.1. Policy							-	-	-	-
40.2.2. Roles and Responsibilities	XK						B	B	-	-
40.2.3. Site Structure	XK						B	B	-	-
40.2.4. Identify Storage Parameters	XK						B	B	-	-
40.2.5. Sites / Pages										
40.2.5.1. Elicit User Requirements	XK						2b	b	-	-
40.2.5.2. Evaluate User Requirements	XK						B	B	-	-
40.2.5.3. Types	XK						B	B	-	-
40.2.5.4. Purpose	XK						B	B	-	-
40.2.5.5. Create Sites	XK						2b	b	-	-
40.2.5.6. Delete Sites	XK						2b	b	-	-
40.2.5.7. Reset Site	XK						2b	b	-	-
40.2.5.8. Manage Site Layout	XK						2b	b	-	-
40.2.5.9. Create / Use Dashboards	XK						2b	b	-	-
40.2.6. Site Actions										
40.2.6.1. Web Analytics	XK						2b	b	-	-
40.2.6.2. Activate Site Features	XK						2b	b	-	-
40.2.6.3. Activate Site Collection Features	XK						2b	b	-	-
40.2.6.4. Site Collection Audit	XK						2b	b	-	-
40.2.6.5. Create Customized Navigation	XK						2b	b	-	-
40.2.7. Galleries										
40.2.7.1. Establish Site Columns							2b	-	-	-
40.2.7.2. Add Site Content Type	XK						2b	b	-	-
40.2.7.3. Manage Site Settings	XK						2b	b	-	-
40.2.7.4. Organize	XK						2b	b	-	-
40.2.8. Permissions										
40.2.8.1. Create Hierarchy	XK						2b	b	-	-
40.2.8.2. Create / Manage Users	XK						2b	b	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
40.2.8.3. Create / Manage Groups	XK						2b	b	-	-
40.2.9. Content (Files, graphics, excel files, links, graphics, calendars, etc.)										
40.2.9.1. Create Custom Content Types							-	b	-	-
40.2.9.2. Add	XK						2b	b	-	-
40.2.9.3. Move	XK						2b	b	-	-
40.2.9.4. Delete	XK						2b	b	-	-
40.2.10. Lists										
40.2.10.1. Create / Manage Templates	XK						2b	b	-	-
40.2.10.2. Create a List	XK						2b	b	-	-
40.2.10.3. Modify Columns	XK						2b	b	-	-
40.2.10.4. Export							2b	-	-	-
40.2.10.5. Modify Form View	XK						2b	b	-	-
40.2.11. Library										
40.2.11.1. Create / Manage Templates	XK						2b	b	-	-
40.2.11.2. Create a Document Library	XK						2b	b	-	-
40.2.11.3. Force Check In / Check Out a Document	XK						2b	b	-	-
40.2.11.4. Manage Version Control	XK						2b	b	-	-
40.2.11.5. Set Alerts	XK						2b	b	-	-
40.2.12. Views										
40.2.12.1. Manage	XK						-	b	-	-
40.2.12.2. Create a Standard	XK						2b	b	-	-
40.2.12.3. Create a Data Sheet	XK						2b	b	-	-
40.2.12.4. Create / Manage Filters	XK						2b	b	-	-
40.2.12.5. Use Conditional Statements							2b	c	-	-
40.2.13. Workflow										
40.2.13.1. Purpose	XK						B	B	-	-
40.2.13.2. Create / Use Workflows	XK						2b	b	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
40.2.13.3. Manual / Automatic Activation	XK						2b	b	-	-
40.2.13.4. Out of the Box Workflows	XK						-	b	-	-
40.2.13.5. Associate Workflows to Lists	XK						-	b	-	-
40.2.13.6. Associate Workflows to Libraries	XK						-	b	-	-
40.2.14. Web Parts/App Parts										
40.2.14.1. Uses	XK						B	B	-	-
40.2.14.2. Managing Web/App Parts							2b	b	-	-
40.2.15. Item Recovery										
40.2.15.1. Recover From Recycle Bin	XK						2b	c	-	-
40.2.15.2. Recover From Site Collection Recycle Bin	XK						B	C	-	-
40.2.16. Translate Excel / Access Features	XK						-	B	-	-
40.2.17. SharePoint Designer										
40.2.17.1. Customizing and Implementing Content Types										
40.2.17.1.1. Customize Content Types	XK						-	b	-	-
40.2.17.1.2. Implement Custom Content Types	XK						-	b	-	-
40.2.17.2. Integrating Data Sources Using SharePoint Designer										
40.2.17.2.1. Access Data Sources	XK						-	b	-	-
40.2.17.2.2. Modify a Data Source in Data View	XK						-	b	-	-
40.2.17.3. Creating Workflows with the Workflow Platform										
40.2.17.3.1. Implement the Workflow Platform	XK						-	b	-	-
40.2.17.3.2. Design a Workflow	XK						-	b	-	-
40.2.17.4. Creating Workflows with SharePoint Designer and Visio										
40.2.17.4.1. Design Workflows with Visio	XK						-	b	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
40.2.17.4.2. Transfer a Visio Workflow Design to SharePoint Designer	XK						-	b	-	-
40.2.17.4.3. Publish a Visio Workflow Design Using SharePoint Designer	XK						-	b	-	-
40.2.17.5. Packaging and Deploying Workflows										
40.2.17.5.1. Package Workflows	XK						-	b	-	-
40.2.17.5.2. Deploy Workflow Packages	XK						-	b	-	-
40.2.17.5.3. Create Impersonation Steps	XK						-	b	-	-
40.2.17.5.4. Create Action Statements	XK						-	b	-	-
41. WEB DEVELOPMENT TR: 1D7X1K Learning Program (AF e-Learning); http://www.w3.org/standards/webdesign/; https://www.w3.org/WAI/intro/accessibility.php; https://www.usability.gov/; AF e-learning Web Design for Dummies ISBN #9781118004906; https://www.w3schools.com/tags/default.asp; https://www.w3schools.com/html/default.asp; AF e-Learning HTML & CSS ISBN #9780071496292; https://www.w3schools.com/css/default.asp; https://www.w3schools.com/cssref/default.asp; https://www.w3schools.com/css/css_intro.asp; https://www.w3schools.com/js/; AF e-Learning JavaScript Essentials Library ID: sl_jsce_a01_it_enus										
41.1. Hypertext Markup Language Code (HTML)										
41.1.1. About	XK						B	B	-	-
41.1.2. Best Practices	XK						B	B	-	-
41.1.3. HTML Structure	XK						2b	b	-	-
41.1.4. Create Elements, Attributes, Headlines and Paragraphs	XK						2b	b	-	-
41.1.5. Use Styles	XK						2b	b	-	-
41.1.6. Use Formatting Elements	XK						2b	b	-	-
41.1.7. Add Links	XK						2b	b	-	-
41.1.8. Use Images	XK						2b	b	-	-
41.1.9. Add Tables	XK						2b	b	-	-
41.1.10. Create Lists	XK						2b	b	-	-
41.1.11. Create Hyperlinks	XK						2b	b	-	-
41.1.12. Create Marquee	XK						2b	b	-	-
41.1.13. Add Email Links	XK						2b	b	-	-
41.1.14. Add Comments	XK						2b	b	-	-
41.1.15. Resources	XK						B	B	-	-
41.1.16. JavaScript							B	-	-	-
41.2. Cascading Style Sheets										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
41.2.1. About							B	B	-	-
41.2.2. Syntax							B	B	-	-
41.2.3. Selectors							B	B	-	-
41.2.4. 3 ways to insert Cascading Style Sheet							B	B	-	-
41.2.5. Work with Colors							2b	-	-	-
41.2.6. Work with images							2b	-	-	-
41.2.7. Box Model							B	B	-	-
41.2.8. Use Height and Width Modifications							2b	B	-	-
41.2.9. Use Auto Value							2b	-	-	-
41.2.10. Use Text Modification							2b	-	-	-
41.2.11. Use Icons & Stylesheets							2b	-	-	-
41.2.12. Add Commenting							2b	-	-	-
41.2.13. Resources							B	B	-	-
42. CLIENT SYSTEMS FAMILIARIZATION TR: 1D7X1K Learning Program (AF e-Learning); AFI 17-130; TO 00-33A-1202; AFNET Procedures; AFJQS1D7XX-200DR; Skill Capability Pathfinder										
42.1. Account Management Fundamentals										
42.1.1. Account Management Systems	XK						B	B	-	-
42.1.2. Manage Computer Accounts	XK						-	b	-	-
42.1.3. Account Types							B	-	-	-
42.2. Access Management Fundamentals										
42.2.1. Add to Domain	XK						B	B	-	-
42.2.2. Manage Security Groups							-	b	-	-
42.2.3. Manage Limited Access Accounts							-	b	-	-
42.3. Group Policy Fundamentals										
42.3.1. Principles	XK						B	B	-	-
42.3.2. Query Group Policies							-	b	-	-
42.3.3. Apply Group Policy							-	b	-	-
43. CYBER SYSTEMS FAMILIARIZATION TR: 1D7X1K Learning Program (AF e-Learning); Skill Capability Pathfinder										
43.1. Operating Systems Fundamentals										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
43.1.1. Types and Characteristics	XK						B	B	-	-
43.1.2. Common Server Roles	XK						B	B	-	-
43.1.3. Basic Cmd Line Programs	XK						B	B	-	-
43.1.4. Account Management	XK						B	B	-	-
43.1.5. Hardening	XK						B	B	-	-
43.1.6. Process Management	XK						B	B	-	-
43.2. Incident/Event Reporting	XK						B	B	-	-
43.3. AF Standard Vulnerability Assessment (VA) Tools Fundamentals										
43.3.1. Functions and Capabilities							B	B	-	-
43.3.2. Review Vulnerability Scan	XK						B	B	-	-
43.4. STIG Compliance Requirements Fundamentals										
43.4.1. Use STIG Viewer							B	B	-	-
43.4.2. Apply STIG							B	B	-	-
43.4.3. Use STIG Compliance Scanning Tool							B	B	-	-
43.5. Describe Best Practices for Vulnerability Assessment Tools							B	B	-	-
43.6. Patch Management Fundamentals										
43.6.1. Purpose							B	B	-	-
43.6.2. Client Install and Uninstall							B	-	-	-
43.6.3. Install Security Patches							B	-	-	-
43.6.4. Utilize the Dashboard for Reporting							B	-	-	-
44. RF TRANSMISSION OPERATIONS CAREER FIELD TR: AFI 36-2101; CFETP; AFECD										
44.1. Explain duties of AFSC	XR						A	A	-	-
45. SAFETY/RISK MANAGEMENT (RM) TR: AFI 48-109; AFI 90-802; AFI 91-202; AFMAN 91-203; TO 31Z-10-4										
45.1. Air Force Safety, Fire, and Health Standards for AFSC	XR						A	A	-	-
45.2. Hazards of the AFSC	XR						A	A	-	-
45.3. Practice Safety Precautions										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
45.3.1. Maintenance Actions							-	-	-	-
45.3.2. Energized Equipment	XR						A	A	-	-
45.3.3. High Voltage Equipment							-	-	-	-
45.3.4. Radio Frequency (RF) Hazard Environments	XR						A	A	-	-
45.4. Safety and Personal Protective Equipment										
45.4.1. Use	XR						2b	-	-	-
45.4.2. Maintain	XR						-	-	-	-
45.4.3. Inspect	XR						-	-	-	-
45.5. Perform General Housekeeping	XR						-	-	-	-
46. ELECTRONIC PRINCIPLES TR: TO 31-1-141-2WA-1 Ch.7, 9, and 10										
46.1. Metric Notation										
46.1.1. Calculate Powers of Ten							B	-	-	-
46.1.2. Electrical Prefixes							B	-	-	-
46.2. Fundamentals of Electricity										
46.2.1. Ohm's Law and its Applications							A	-	-	-
46.2.2. Identify and Interpret Basic Electrical Symbols and Drawings							A	-	-	-
46.2.3. Current							A	-	-	-
46.2.4. Voltage							A	-	-	-
46.2.5. Resistance							A	-	-	-
46.2.6. Inductance							A	-	-	-
46.2.7. Capacitance							A	-	-	-
46.2.8. Power							A	-	-	-
46.3. Direct Current										
46.3.1. Theory							A	-	-	-
46.3.2. Applications							B	-	-	-
46.4. Alternating Current										
46.4.1. Theory							A	-	-	-
46.4.2. Applications							B	-	-	-
46.5. Component and Device Theory										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
46.5.1. Transformers							A	-	-	-
46.5.2. Resistors							A	-	-	-
46.5.3. Capacitors							A	-	-	-
46.5.4. Inductors							A	-	-	-
46.5.5. Relays/solenoids							A	-	-	-
46.5.6. Diodes							A	-	-	-
46.5.7. Transistors							A	-	-	-
46.5.8. Integrated Circuit							A	-	-	-
46.6. Electronic Circuits										
46.6.1. Kirchhoff's Law							A	-	-	-
46.6.2. Series Circuits							A	-	-	-
46.6.3. Parallel Circuits							A	-	-	-
46.7. Wave Generating Circuits										
46.7.1. Oscillators							B	-	-	-
46.7.2. Transistor Amplifier Circuits							B	-	-	-
46.8. Digital Circuits										
46.8.1. Theory							B	-	-	-
46.8.2. Applications							B	-	-	-
47. STANDARD PRACTICES TR: AFI 32-1065, American Public Works Association Policy and American National St; TOs 00-25-234-WA-1, 31-10-7-WA-1, 31-10-11-WA-1, 31- 10-13-WA-1, 31-10-24-WA-1, 31-141-1-WA-1 series, 31W3 10-20, MIL-STD 2000A										
47.1. Use Publications when Performing Work	XR						2b	-	-	-
47.2. Installation	XR						-	A	-	-
47.3. Configuration	XR						-	A	-	-
47.4. Interconnection	XR						-	A	-	-
47.5. Inspection	XR						-	A	-	-
47.6. TEMPEST Suppression Techniques							-	B	-	-
47.7. Documentation										
47.7.1. Cabling							-	A	-	-
47.7.2. Installation							-	A	-	-
47.8. Wire Color Coding Standards							-	B	-	-
47.9. Fiber Optics Installation Concepts							-	-	-	-
47.10. Twisted pair Cable							A	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
47.11. Coaxial Cables							A	A	-	-
47.12. Fiber Optic Cable							A	-	-	-
47.13. Interfacing Considerations (e.g.TRI TAC, Pinouts, Signal Format)							-	-	-	-
47.14. Shielding							A	B	-	-
47.15. Lightning Protection	XR						A	B	-	-
47.16. Equipment Grounding and Lightning Protection										
47.16.1. Install							-	-	-	-
47.16.2. Remove							-	-	-	-
47.16.3. Perform Inspection	XR						-	-	-	-
47.16.4. Perform Maintenance	XR						-	-	-	-
47.17. Underground Utilities										
47.17.1. Identify							-	-	-	-
47.17.2. Mark							-	-	-	-
47.18. Equipment Familiarization										
47.18.1. Visual Inspection							A	-	-	-
47.18.2. Basic Troubleshooting Techniques	XR						B	-	-	-
48. TEST EQUIPMENT TR: Applicable Test Equipment Technical Orders; TO 33K-1-100-1										
48.1. Test Equipment Theory										
48.1.1. Optical Time Domain Reflectometer							-	-	-	-
48.1.2. Time Domain Reflectometer							-	-	-	-
48.1.3. Bit Error Rate Test Set	XR						A	A	-	-
48.1.4. Frequency Counter							A	A	-	-
48.1.5. Network/Protocol Analyzer							-	A	-	-
48.1.6. Spectrum Analyzer	XR						A	A	-	-
48.1.7. Power Meter							A	A	-	-
48.1.8. Insulation Test Set							-	-	-	-
48.1.9. Megaohmeter							-	-	-	-
48.1.10. Built in Test Equipment							-	-	-	-
48.1.11. Breakout Box							-	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
48.1.12. Communications System Analyzer/Communications Service Monitor							A	A	-	-
48.1.13. Sweep Generator							-	-	-	-
48.1.14. RMS Voltmeter							A	-	-	-
48.1.15. Distortion Analyzer							A	-	-	-
48.1.16. Wattmeter							A	A	-	-
48.1.17. Dummy Load							A	A	-	-
48.1.18. Audio Oscillator	XR						A	A	-	-
48.1.19. Infrared Tester							-	-	-	-
48.1.20. Earth Ground Tester	XR						A	A	-	-
48.1.21. Wavemeter							-	-	-	-
48.1.22. VSWR Tester							-	-	-	-
48.2. Equipment Maintenance using Test Equipment										
48.2.1. Optical Time Domain Reflectometer							-	-	-	-
48.2.2. Time Domain Reflectometer							-	-	-	-
48.2.3. Bit Error Rate Test Set	XR						2b	-	-	-
48.2.4. Frequency Counter							2b	-	-	-
48.2.5. Network/Protocol Analyzer							-	-	-	-
48.2.6. Spectrum Analyzer	XR						2b	-	-	-
48.2.7. Power Meter							-	-	-	-
48.2.8. Insulation Test Set							-	-	-	-
48.2.9. Megaohmeter							-	-	-	-
48.2.10. Built in Test Equipment							-	-	-	-
48.2.11. Breakout Box							-	-	-	-
48.2.12. Communications System Analyzer/Communications Service Monitor (Note 1)	XR						2b / -	-	-	-
48.2.13. Sweep Generator							-	-	-	-
48.2.14. RMS Voltmeter							2b	-	-	-
48.2.15. Distortion Analyzer							2b	-	-	-
48.2.16. Wattmeter							2b	-	-	-
48.2.17. Dummy Load							2b	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
48.2.18. Audio Oscillator							-	-	-	-
48.2.19. Infrared Tester							-	-	-	-
48.2.20. Earth Ground Tester	XR						2b	-	-	-
48.2.21. Wavemeter							-	-	-	-
48.2.22. VSWR Tester							-	-	-	-
49. SPECIALIZED TOOLS TR: Applicable Technical Publications										
49.1. Amphenol Tool							-	-	-	-
49.2. Tone Generator							-	-	-	-
49.3. Inductive Amplifier							-	-	-	-
49.4. LAN Tester							-	-	-	-
49.5. Light Source							-	-	-	-
49.6. Transit							A	A	-	-
49.7. Fusion Splicer							-	-	-	-
49.8. Fiber Optic Source and Meter							-	-	-	-
50. BASIC COMMUNICATIONS THEORY TR: TO 31-1-141-2WA-1 Ch.7, 9, and 10										
50.1. Digital Communications							A	A	-	-
50.2. Radio Theory										
50.2.1. Transmitters							A	B	-	-
50.2.2. Receivers							A	B	-	-
50.2.3. Transceivers							A	A	-	-
50.3. RF Transmission Mediums							B	B	-	-
50.4. Modulation Techniques							B	B	-	-
50.5. Radio Etiquette							A	-	-	-
50.6. Practice Radio Etiquette							2b	-	-	-
50.7. RF Spectrum										
50.7.1. Frequency Bands and Characteristics							A	B	-	-
50.7.2. Joint Spectrum Interference Resolution (JSIR) Program							-	-	-	-
50.7.3. Air Force Spectrum Interference Resolution (AFSIR) Program							A	B	-	-
50.8. Electromagnetic Wave Propagation Theory										
50.8.1. Radio Wave Propagation										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
50.8.1.1. Refraction							A	B	-	-
50.8.1.2. Reflection							A	B	-	-
50.8.1.3. Diffraction							A	B	-	-
50.8.1.4. Skywave Fundamentals							-	B	-	-
50.8.2. Signal Loss										
50.8.2.1. Path Loss							A	B	-	-
50.8.2.2. Atmospheric Attenuation							A	B	-	-
50.8.2.3. Multipathing							A	B	-	-
50.8.2.4. Free Space Loss							A	B	-	-
50.8.2.5. Anomalous Propagation							A	B	-	-
50.8.2.6. Solar Emissions and effects							-	B	-	-
51. ANTENNA PRINCIPLES TR: TO 31-1-141-12										
51.1. Common Antennas										
51.1.1. Dipole							A	A	-	-
51.1.2. Whip							A	A	-	-
51.1.3. Longwire							-	A	-	-
51.1.4. Horn							-	A	-	-
51.1.5. Helical							-	A	-	-
51.1.6. Parabolic							A	A	-	-
51.1.7. Array							A	A	-	-
51.2. Antenna Efficiency							A	B	-	-
51.3. Antenna Waves							A	A	-	-
51.4. Antenna Site Selection and Configuration							A	A	-	-
51.5. Mutual Interference							A	A	-	-
51.6. Antenna Gain							A	B	-	-
51.7. Impedance Matching							A	B	-	-
51.8. Resonant & Non Resonant Antennas							A	B	-	-
51.9. Law of Reciprocity							A	A	-	-
51.10. Polarization							A	B	-	-
51.11. Relationship of Antenna Height and Take Off Angle							A	A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
51.12. Calculation of Electrical Length							A	A	-	-
51.13. Calculation of Physical Length							A	A	-	-
51.14. Beamwidth							A	A	-	-
51.15. Deployable Antenna Equipment										
51.15.1. Deployable Antennas							A	-	-	-
51.15.2. Deployable Antenna Masts							A	-	-	-
51.15.3. Erect Selected Deployable Antenna Masts and Antennas							2b	-	-	-
51.16. Airborne Antenna Applications										
51.16.1. Effects of Flight on Antenna Propagation							-	A	-	-
51.16.2. Antenna Configuration On Airframes							-	A	-	-
52. TACTICAL RADIO APPLICATIONS TR: AFTTP(I) 3-2.27, Applicable Commercial Manuals										
52.1. High Frequency (HF) Transceiver Equipment										
52.1.1. Capabilities and Limitations							A	-	-	-
52.1.2. Controls and Indicators							A	-	-	-
52.1.3. Function of Modules							-	-	-	-
52.1.4. Operate the HF Transceiver							2b	-	-	-
52.1.5. Perform Preventive Maintenance Inspection							2b	-	-	-
52.1.6. Troubleshoot							-	-	-	-
52.1.7. Survivable HF Communications										
52.1.7.1. HFGCS							-	A	-	-
52.1.7.2. Automatic Link Establishment (ALE)							A	B	-	-
52.2. Tactical VHF/UHF Transceiver										
52.2.1. Capabilities, Configurations, and Limitations							A	-	-	-
52.2.2. Controls and Indicators							A	-	-	-
52.2.3. Function of Modules							-	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
52.2.4. Operate the Transceiver							2b	-	-	-
52.2.5. Perform Selected Preventive Maintenance Inspections (PMIs)							2b	-	-	-
52.2.6. Troubleshoot							2b	-	-	-
52.2.7. UHF TACSAT										
52.2.7.1. UHF Follow-on/TACSAT Purpose, Capabilities, and Limitations							A	-	-	-
52.2.7.2. UHF TACSAT Transceiver							A	-	-	-
52.2.7.3. Control and Indicator Functions							A	-	-	-
52.2.7.4. Operate the UHF TACSAT Transceiver							2b	-	-	-
52.3. Battlefield Networks										
52.3.1. Jam Resistant Communications										
52.3.1.1. Frequency Hopping							A	B	-	-
52.3.1.2. Spread Spectrum							A	A	-	-
52.3.1.3. Joint Tactical Information Distribution System (JTIDS)/Multifunctional Information Distribution System (MIDS)							A	A	-	-
52.3.2. Tactical Data Links (TDLs)							A	A	-	-
52.3.3. Situation Awareness Data Link (SADL)							A	A	-	-
52.3.4. Enhanced Position Location Reporting System (EPLRS)							A	A	-	-
52.3.5. Advanced Waveforms										
52.3.5.1. Integrated Waveform (IW)							A	A	-	-
52.3.5.2. Mobile User Objective System (MUOS)							A	A	-	-
52.3.5.3. ANW2							B	A	-	-
52.3.5.4. TACSAT DAMA							B	A	-	-
52.3.5.5. HPW							B	A	-	-
52.3.5.6. Program Radio Using an Advanced Waveform							2b	-	-	-
53. LAND MOBILE RADIO (LMR) TRANSMISSION SYSTEMS TR: Applicable TOs and Commercial Manuals										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
53.1. Conventional LMR Systems	XR						-	A	-	-
53.2. Trunked LMR Systems	XR						-	A	-	-
53.3. Enterprise LMR Systems	XR						-	A	-	-
53.4. LMR Systems Encryption	XR						-	A	-	-
53.5. Program LMRs							-	-	-	-
54. INSTALLATION NOTIFICATION AND WARNING SYSTEMS (GIANT VOICE) TR: AFI 10-2501 and Commercial Manuals										
54.1. Principles, Capabilities, and Limitations	XR						-	B	-	-
54.2. Controls and Indicators							-	-	-	-
54.3. Functions of Modules							-	-	-	-
54.4. Perform Operational Checks							-	-	-	-
54.5. Configure							-	-	-	-
55. CRYPTO PRINCIPLES TR: Applicable TOs and Manuals										
55.1. Common Cryptology Methods							A	A	-	-
55.2. Cryptological Equipment							A	A	-	-
55.3. Fill Devices							A	A	-	-
55.4. Operate Selected Cryptological Equipment							2b	-	-	-
56. SATELLITE COMMUNICATIONS (SATCOM) TR: CJCSI 6250.01; Applicable DISA Circulars, USSTRATCOM Wideband Standards and Operating Procedures										
56.1. Satellite System Segments Principles, Capabilities, and Limitations										
56.1.1. Space Segment							A	A	-	-
56.1.2. Command and Control Segment							A	A	-	-
56.1.3. Terminal Segment							A	A	-	-
56.2. Satellite Bands, Purpose, Capabilities and Limitations										
56.2.1. Commercial C, Ku, K, X and Ka Band							A	A	-	-
56.2.2. Commercial L Band							-	A	-	-
56.3. Satellite Access Principles										
56.3.1. FDMA							A	A	-	-
56.3.2. TDMA							A	A	-	-
56.3.3. CDMA							A	A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
56.3.4. DAMA							A	A	-	-
56.4. Satellite Systems and Constellations										
56.4.1. Wideband Global Satellite (WGS)							A	A	-	-
56.4.2. Defense Satellite Communications System (DSCS)							A	-	-	-
56.4.3. Defense Meteorological Satellite Program (DMSP)							-	A	-	-
56.4.4. Defense Support Program (DSP)							-	A	-	-
56.4.5. MILSTAR							A	A	-	-
56.4.6. Advanced Extremely High Frequency (AEHF)							A	A	-	-
56.4.7. Global Positioning Service (GPS)							A	A	-	-
56.4.8. Mystic Star							-	A	-	-
56.4.9. Commercial Satellite Systems							A	A	-	-
56.4.10. Air Force Satellite Control Network (AFSCN)							A	A	-	-
56.5. SATCOM Terminal Characteristics										
56.5.1. Introduction to UHF, SHF, EHF Terminals							A	B	-	-
56.5.2. Multiband Satellite Terminals							A	A	-	-
56.5.3. Power Distribution System							A	-	-	-
56.5.4. Transmit Systems										
56.5.4.1. Transmitter							A	A	-	-
56.5.4.2. Up Converters							A	A	-	-
56.5.4.3. Power Amplifiers (PA)							A	A	-	-
56.5.5. Receive Systems										
56.5.5.1. Receiver							A	A	-	-
56.5.5.2. Low Noise Amplifiers (LNA)							A	A	-	-
56.5.5.3. Down Converters							A	A	-	-
56.5.6. Antenna and Tracking Systems										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
56.5.6.1. Antenna Systems							A	B	-	-
56.5.6.2. Acquisition and Tracking Principles							A	A	-	-
56.5.6.3. Calculate Satellite Look Angles using specialized tools							2b	A	-	-
56.5.6.4. Acquire and Track Satellites							2b	-	-	-
56.5.7. Multiband Satellite Terminal Operation										
56.5.7.1. Perform Power Up/Down Procedures							2b	-	-	-
56.5.7.2. Configure the Baseband Equipment							2b	-	-	-
56.5.7.3. Perform Baseband Equipment Operational Check							2b	-	-	-
56.5.7.4. Configure Transmit and Receive Equipment							2b	-	-	-
56.5.7.5. Perform Transmit and Receive Equipment operational Check							2b	-	-	-
56.5.7.6. Configure the Antenna System							2b	-	-	-
56.5.7.7. Configure Control, Monitor, and Alarm system							2b	-	-	-
56.5.7.8. Interfacing External Multiplexing Equipment							A	-	-	-
56.5.7.9. Timing and Synchronization							A	A	-	-
56.5.8. Network Bandwidth Management Equipment										
56.5.8.1. Principles, Capabilities, and Limitations							A	B	-	-
56.5.8.2. Multiplexing Equipment										
56.5.8.2.1. Principles, Capabilities, and Limitations							A	-	-	-
56.5.8.2.2. Perform Operational Check							2b	-	-	-
56.5.8.2.3. Configure							2b	-	-	-
56.5.8.2.4. Troubleshoot							2b	-	-	-
56.6. SATCOM Link Operations										
56.6.1. Access Processes										
56.6.1.1. Satellite Database							A	A	-	-

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		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
56.6.1.2. Satellite Access Request (SAR)							A	A	-	-
56.6.1.3. Submit SAR							-	-	-	-
56.6.1.4. Gateway Access Request							A	A	-	-
56.6.2. Communication Link Establishment										
56.6.2.1. Principles							A	B	-	-
56.6.2.2. Establish a Communications Link							2b	-	-	-
56.6.3. Communication Link Maintenance										
56.6.3.1. Identify Counter Counter Measures Facts and Terms							-	A	-	-
56.6.3.2. Maintain Master Station Logs							2b	-	-	-
56.6.3.3. Develop After Action Reports							-	-	-	-
56.6.3.4. DISA Reports										
56.6.3.4.1. SATCOM Equipment Reports (SERS)							-	-	-	-
56.6.3.4.2. HAZCON Reports							-	-	-	-
56.7. Global Positioning System Receiver										
56.7.1. Principles, Capabilities, and Limitations							A	A	-	-
56.7.2. Controls and Indicators							A	-	-	-
56.7.3. Operate a GPS Receiver							2b	-	-	-
57. INTERNET PROTOCOL (IP) NETWORKING TR: AF e-Learning										
57.1. Internetworking Basics										
57.1.1. Internetworking Basics Fundamentals							A	-	-	-
57.1.2. OSI Reference Model							A	-	-	-
57.1.3. Topologies							A	-	-	-
57.1.4. IPv4/IPv6 Addressing Fundamentals							A	-	-	-
57.1.5. Fundamentals of Protocols							A	-	-	-
57.2. Networking										
57.2.1. Internet Protocols							A	-	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
57.2.2. TCP/IP							A	-	-	-
57.2.3. LAN Technologies							A	-	-	-
57.2.4. WLAN (Wireless IEEE 802.11)							A	-	-	-
57.2.5. WAN Technologies										
57.2.5.1. WAN Fundamentals							A	-	-	-
57.2.5.2. Routing							A	-	-	-
57.2.5.3. Configure Router							2b	-	-	-
57.2.5.4. Quality of Service (QoS)							A	-	-	-
57.2.5.5. Survivability							A	-	-	-
57.2.5.6. IP Network Security							A	-	-	-
58. RF DEVICES TO IP NETWORKING TR: Commercial Publications										
58.1. Methods of Interfacing RF Devices with IP Networks							A	A	-	-
58.2. Interface Selected RF Equipment with an IP Network							2b	-	-	-
58.3. Cellular IP Networks and Equipment (GSM, LTE, CDMA)							A	A	-	-
59. ELECTRICAL POWER SYSTEMS TR: Commercial Manuals										
59.1. Switched Electrical Power Systems							A	A	-	-
59.2. Uninterruptible Power Supplies (UPS)							A	A	-	-
59.3. Batteries							A	-	-	-
59.4. Rectifiers							A	-	-	-
59.5. Filters							A	-	-	-
59.6. Inverters							A	-	-	-
59.7. Generators							A	-	-	-
60. MICROWAVE TRANSMISSION SYSTEMS TR: TO 31-1-141-11-WA-1, TO 31-1-141-12-WA-										
60.1. Line of Sight Microwave Radio Systems										
60.1.1. Principles, Capabilities, and Limitations							A	B	-	-
60.1.2. Controls and Indicators							A	-	-	-
60.1.3. Setup and Teardown							2b	-	-	-
60.1.4. Configure Microwave System							2b	-	-	-
60.1.5. Troubleshoot							2b	-	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
60.2. Troposcatter Radio System Theory							-	-	-	-
61. SOFTWARE DEVELOPMENT OPERATIONS CAREER FIELD TR: 1D7X1Z Learning Program (AF e-Learning); AFH 33-337; AFIs 10-401, 33-100, 33-101, 33-115 Vols 1 & 3, 33-150, 36-2101; 1D7X1Z CFETP; AFECD										
61.1. Explain duties of AFSC	XZ						A	A	-	-
62. SOFTWARE DEVELOPMENT FUNDAMENTALS TR: 1D7X1Z Learning Program (AF e-Learning)										
62.1. Software Engineering										
62.1.1. Goals and Principles	XZ						A	B	-	-
62.1.2. Use Software Development/Engineering Tools (e.g. IDE, DBMS, CLI)	XZ						2b	b	-	-
62.1.3. Compiling	XZ						2b	b	-	-
62.2. Problem Solving										
62.2.1. Define Problem	XZ						3b	c	-	-
62.2.2. Problem Solution Statements	XZ						3b	c	-	-
62.2.3. Develop Problem Solution	XZ						3b	c	-	-
62.3. Object Oriented Software Engineering										
62.3.1. Concepts	XZ						A	B	-	-
62.3.2. Design	XZ						A	B	-	-
62.3.3. Programming	XZ						2b	B	-	-
62.4. Design Concepts										
62.4.1. Sequential Design	XZ						-	B	-	-
62.4.2. Conditional Primitives	XZ						2b	b	-	-
62.4.3. Iterative Primitives	XZ						2b	b	-	-
62.4.4. Data Manipulation	XZ						2b	b	-	-
62.4.5. Exception Handling	XZ						2b	b	-	-
62.4.6. Bit Functions	XZ						-	B	-	-
62.4.7. Threading	XZ						-	b	-	-
62.4.8. System Interfaces	XZ						2b	b	-	-
62.4.9. Design Patterns (e.g.MVC)	XZ						A	B	-	-
62.5. Web Fundamentals										
62.5.1. HTML Basics	XZ						2b	b	-	-
62.5.2. CSS Basics	XZ						2b	b	-	-
62.5.3. JavaScript	XZ						2b	b	-	-

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		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
62.5.4. JavaScript /HTTP Interaction	XZ						2b	b	-	-
62.5.5. JavaScript Libraries (e.g. jQuery, Angular, Bootstrap)	XZ						A	B	-	-
62.5.6. Document Object Model (DOM)	XZ						A	B	-	-
62.5.7. Representational State Transfer (REST)	XZ						-	B	-	-
62.5.8. Cloud Providers										
62.5.8.1. Government Cloud Providers	XZ						-	B	-	-
62.5.8.2. Commercial Cloud Providers	XZ						-	B	-	-
62.6. Serialization										
62.6.1. Reasoning / Purpose	XZ						A	B	-	-
62.6.2. Types										
62.6.2.1. JSON	XZ						A	B	-	-
62.6.2.2. Google Protobuffs	XZ						-	B	-	-
62.6.2.3. XML	XZ						A	B	-	-
62.6.2.4. YAML	XZ						-	B	-	-
62.7. Persistent Storage Functions										
62.7.1. Create	XZ						2b	b	-	-
62.7.2. Read	XZ						2b	b	-	-
62.7.3. Update	XZ						2b	b	-	-
62.7.4. Delete	XZ						2b	b	-	-
63. SOFTWARE DEVELOPMENT PROCESS TR: 1D7X1Z Learning Program (AF e-Learning)										
63.1. Interpersonal Skills	XZ						A	B	-	-
63.2. Elicit User Requirements	XZ						2b	c	-	-
63.3. Evaluate User Requirements	XZ						-	B	-	-
63.4. User Stories	XZ						2b	b	-	-
63.5. Feasibility Studies	XZ						-	B	-	-
63.6. Technical Design Considerations										
63.6.1. Environmental Limitations	XZ						-	B	-	-
63.6.2. Environmental Considerations	XZ						-	B	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
63.7. Software Quality Metrics	XZ						A	B	-	-
63.8. Extreme Programming	XZ						2b	b	-	-
63.9. Lifecycle Methodologies	XZ						A	B	-	-
63.10. Test Driven Development	XZ						2b	b	-	-
63.11. Iterative Development	XZ						A	B	-	-
63.12. DevOps	XZ						A	B	-	-
63.13. Create/Update Software Documentation										
63.13.1. Software System Documentation	XZ						A	B	-	-
63.13.2. User Documentation	XZ						A	B	-	-
64. SOFTWARE CONFIGURATION MANAGEMENT TR: 1D7X1Z Learning Program (AF e-Learning)										
64.1. Overview	XZ						A	B	-	-
64.2. Source Control										
64.2.1. Purpose	XZ						A	B	-	-
64.2.2. Repositories	XZ						A	B	-	-
64.2.3. Lock Modify Unlock Model	XZ						A	B	-	-
64.2.4. Copy Modify Merge Model	XZ						A	B	-	-
64.2.5. Utilize Source Control Tools	XZ						2b	c	-	-
64.2.6. Versioning										
64.2.6.1. Version Number Scheme	XZ						-	B	-	-
64.2.6.2. Release Baselines	XZ						-	B	-	-
64.2.6.3. Concurrent Release Development	XZ						-	C	-	-
64.3. Software Support Libraries										
64.3.1. Development of Library Modules	XZ						-	B	-	-
64.3.2. Use	XZ						2b	b	-	-
64.3.3. Maintain	XZ						-	B	-	-
65. SOFTWARE SECURITY TR: 1D7X1Z Learning Program (AF e-Learning)										
65.1. System Security										
65.1.1. Buffer Overflow	XZ						B	B	-	-
65.1.2. Stack Overflow	XZ						B	B	-	-

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		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
65.1.3. Heap Overflow	XZ						B	B	-	-
65.1.4. Format String Attack	XZ						B	B	-	-
65.1.5. Fuzzing							-	B	-	-
65.1.6. Safe Functions	XZ						B	B	-	-
65.1.7. Memory Leaks	XZ						B	B	-	-
65.1.8. Root Kits							-	B	-	-
65.1.9. Privilege Escalation/Lateral							-	B	-	-
65.1.10. Check Return Values							-	B	-	-
65.1.11. Shellcode							-	B	-	-
65.2. Transport Security										
65.2.1. Transport Layer Security	XZ						-	B	-	-
65.2.2. Encoding	XZ						-	B	-	-
65.2.3. Tunneling							A	B	-	-
65.2.4. Session Hijacking	XZ						-	B	-	-
65.2.5. Integrity / Checksum Check							-	B	-	-
65.2.6. Cross Site Request Forgery							-	B	-	-
65.3. Input Validation										
65.3.1. Data Validation	XZ						2b	b		
65.3.2. Sanitization	XZ						2b	b		
65.3.3. SQL Injection	XZ						-	B		
65.3.4. Code Injection	XZ						-	B		
65.3.5. Cross Site Scripting	XZ						-	B		
65.4. Encryption										
65.4.1. Block							-	A	-	-
65.4.2. Stream							-	A	-	-
65.4.3. Securely Stored Tokens/Keys/Certificates							-	A	-	-
65.4.4. End to End Encryption							-	A	-	-
65.4.5. RSA							-	A	-	-
65.4.6. Public Key Infrastructure (PKI)							-	A	-	-
65.4.7. Certificates										
65.4.7.1. Certificate Trust Chain							-	A	-	-

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		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
65.4.7.2. Certificate Revocation List							-	A	-	-
65.4.7.3. Certificate Generation										
65.4.7.3.1. OpenSSL							-	A	-	-
65.4.7.3.2. Bouncy Castle							-	A	-	-
65.4.7.4. Authentication Levels							-	A	-	-
65.5. Malware Reverse Engineering										
65.5.1. Strings							-	A	-	-
65.5.2. Virus Total							-	A	-	-
65.5.3. Advanced Static Analysis							-	A	-	-
65.5.4. Advanced Dynamic Analysis							-	A	-	-
65.5.5. Wireshark							-	A	-	-
65.5.6. Imports/Exports							-	A	-	-
65.5.7. Isolate in Virtual Machine							-	A	-	-
65.6. Common Vulnerabilities and Exposures (CVE)	XZ						-	A	-	-
65.7. Information Assurance Vulnerability Alert (IAVA)	XZ						-	A	-	-
65.8. Auditing							-	B	-	-
66. SOFTWARE TESTING TR: 1D7X1Z Learning Program (AF e-Learning)										
66.1. Documentation										
66.1.1. Test Plans	XZ						A	-	-	-
66.1.2. Test Cases										
66.1.2.1. Format	XZ						2b	b	-	-
66.1.2.2. Positive Testing	XZ						A	B	-	-
66.1.2.3. Negative Testing	XZ						A	B	-	-
66.1.3. Bug Reporting	XZ						A	B	-	-
66.2. Testing Types										
66.2.1. Black / White Box Testing							A	-	-	-
66.2.2. Functional Testing										
66.2.2.1. Unit Testing	XZ						A	B	-	-
66.2.2.2. Integration Testing	XZ						A	B	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
66.2.2.3. System / Regression Testing	XZ						A	B	-	-
66.2.2.4. Acceptance Testing	XZ						A	B	-	-
66.2.3. Nonfunctional Testing										
66.2.3.1. Security Testing										
66.2.3.1.1. Vulnerability Scanning							A	B	-	-
66.2.3.1.2. Security Scanning							A	B	-	-
66.2.4. Performance Testing	XZ						A	B	-	-
66.2.5. End to End Testing	XZ						A	B	-	-
66.3. Testing Automation										
66.3.1. GUI Testing	XZ						A	B	-	-
66.3.2. Web Services / API Testing	XZ						A	B	-	-
66.4. Continuous Testing	XZ						A	B	-	-
67. SOFTWARE MAINTENANCE TR: 1D7X1Z Learning Program (AF e-Learning)										
67.1. Corrective										
67.1.1. Bug Management										
67.1.1.1. Collection	XZ						A	B	-	-
67.1.1.2. Prioritization	XZ						-	B	-	-
67.1.2. Error Correction										
67.1.2.1. Data Entry	XZ						-	B	-	-
67.1.2.2. Syntax	XZ						2b	b	-	-
67.1.2.3. Logic	XZ						2b	b	-	-
67.2. Adaptive										
67.2.1. Migration	XZ						-	B	-	-
67.2.2. Redesign	XZ						-	B	B	-
67.3. Perfective										
67.3.1. Periodic Validation										
67.3.1.1. Federal Requirements							-	B	-	-
67.3.1.2. Functional Testing	XZ						2b	b	-	-
67.3.1.3. Security Testing	XZ						2b	b	-	-
67.3.2. Efficiency Analysis										
67.3.2.1. Hardware Limitations							-	B	-	-
67.3.2.2. OS / Host System Limitations							-	B	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
68. USER EXPERIENCE DESIGN (UXD) TR: 1D7X1Z Learning Program (AF e-Learning)										
68.1. User Centered Design	XZ						A	B	-	-
68.2. Information Architecture	XZ						A	B	-	-
68.3. Interaction Design	XZ						A	B	-	-
68.4. Visual Design	XZ						A	B	-	-
68.5. Accessibility	XZ						A	B	-	-
68.6. Usability	XZ						A	B	-	-
69. DATABASE TR: 1D7X1Z Learning Program (AF e-Learning)										
69.1. Design										
69.1.1. Logical	XZ						A	B	-	-
69.1.2. Normalization	XZ						A	B	-	-
69.1.3. Denormalization	XZ						A	B	-	-
69.1.4. Physical	XZ						A	B	-	-
69.1.5. Data Models										
69.1.5.1. Relational	XZ						A	B	-	-
69.1.5.2. Key Value	XZ						A	B	-	-
69.1.5.3. Document	XZ						A	B	-	-
69.1.5.4. Graph	XZ						A	B	-	-
69.1.5.5. Column Oriented	XZ						A	B	-	-
69.1.6. Transaction Processing										
69.1.6.1. CAP Theorem	XZ						-	B	B	-
69.1.6.2. Atomicity, Consistency, Isolation, Durability (ACID)	XZ						-	B	B	-
69.1.6.3. Basically Available, Soft State, Eventual Consistency (BASE)	XZ						-	B	B	-
69.1.7. Query Performance Tuning	XZ						A	B	B	-
69.1.8. Backups	XZ						A	B	-	-
69.1.9. Restore and Recovery	XZ						A	B	-	-
69.2. Objects										
69.2.1. Table	XZ						A	B	-	-
69.2.2. View	XZ						A	B	-	-
69.2.3. Stored Procedure	XZ						A	B	-	-
69.2.4. Trigger							A	B	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
69.2.5. Index							A	B	-	-
69.2.6. Query Language Fundamentals	XZ						2b	B	-	-
70. ARCHITECTURE TR: 1D7X1Z Learning Program (AF e-Learning)										
70.1. Memory										
70.1.1. Cache Levels							-	-	-	-
70.1.2. Memory Allocation	XZ						-	A	-	-
70.1.3. Stack	XZ						-	A	-	-
70.1.4. Heap	XZ						-	A	-	-
70.1.5. Data Types	XZ						A	B	-	-
70.2. Character Encoding	XZ						A	B	-	-
70.3. Compilers / Flags	XZ						-	B	-	-
71. NETWORKING TR: 1D7X1Z Learning Program (AF e-Learning)										
71.1. Network Fundamentals										
71.1.1. Networking RFCs	XZ						-	B	-	-
71.1.2. Network Byte Order	XZ						-	B	-	-
71.2. Common Protocols (e.g. Handshake, State, OSI Layer, Header Standard Port #)										
71.2.1. SSH	XZ						A	B	-	-
71.2.2. SSL / TLS	XZ						A	B	-	-
71.2.3. Secure FTP Versions	XZ						A	B	-	-
71.2.4. HTTP(S)	XZ						A	B	-	-
71.2.5. SNMP	XZ						A	B	-	-
71.3. Sockets										
71.3.1. BSD Sockets	XZ						-	B	-	-
71.3.2. WinSock	XZ						-	B	-	-
71.3.3. Pipes	XZ						-	B	-	-
71.3.4. FIFOs	XZ						-	B	-	-
71.3.5. Websockets	XZ						-	B	-	-
71.4. Proxy/Redirection										
71.4.1. Web Proxies							-	A	-	-
71.4.2. Forward Proxy							-	A	-	-
71.4.3. Reverse Proxy							-	A	-	-
71.4.4. Anonymous Proxies							-	A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
71.4.5. Tunneling							-	A	-	-
71.5. Command Line Network Utilities										
71.5.1. Ping	XZ						A	B	-	-
71.5.2. Tracer / Traceroute	XZ						A	B	-	-
71.5.3. Ipconfig / Ifconfig	XZ						A	B	-	-
71.5.4. Netstat	XZ						A	B	-	-

1. Implementation. This STS will be used for technical training provided by AETC for the 3-level course beginning on TBD.

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
1. SPECTRUM OPERATIONS CAREER FIELD TR: 1D7X2F Learning Program (AF e-Learning); AFI 36-2101; CFETP; AFECD										
1.2. Duties/Responsibilities of AFSC	XF						A	A	-	-
1.3. Spectrum Operations Role in Cyber	XF						B	B	-	-
2. SAFETY/RISK MANAGEMENT (RM) TR: AFI 48-109; AFI 90-802; AFI 91-202; AFMAN 91-203										
2.1. Air Force Safety, Fire, and Health Standards for AFSC	XF						A	A	-	-
2.2. Hazards of the AFSC	XF						A	A	-	-
2.3. Manage Work Center Safety Program	XF						-	A	A	-
3. INTRODUCTION TO CYBER TR: AFI 36-2101; AFGM2018-17-02										
3.1. Cyber Mission Force	XF						-	A	-	-
3.2. Explain Qualifications	XF						-	A	A	-
3.3. Security Programs TR: AFIs 10-701, 16-1404; AFPD										
3.3.1. OPSEC	XF						-	A	A	-
3.3.2. INFOSEC	XF						-	A	-	-
3.3.3. COMPUSEC	XF						-	B	-	-
3.3.4. TEMPEST	XF						A	B	-	-
3.3.5. COMSEC	XF						A	A	-	-
3.4. Physical Security	XF						A	B	-	-
3.5. Classified Material Control	XF						-	B	-	-
3.6. Force Management TR: AFECD; AFIs 36-2651, 36-										
3.6.1. Utilization and Training Workshop (U&TW) & Specialty	XF						-	A	A	-
3.6.2. Occupational Survey	XF						-	A	A	-
4. SPECTRUM MANAGEMENT										
4.1. International Telecommunications Union (ITU)	XF						B	B	-	-
4.2. National and Government										
4.2.1. U.S. National Policy Regulation	XF						B	B	-	-
4.2.2. National Telecommunications & Information	XF						B	B	-	-
4.2.3. Federal Communications Commission (FCC)	XF						B	B	-	-
4.2.4. Code of Federal Regulations Title 47	XF						B	B	-	-
4.2.5. Spectrum Legislation							A	-	-	-
4.2.6. National Frequency Table of Allocations							B	B	-	-
4.3. DoD Spectrum Management Organization										

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		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
4.3.1. DoD Chief Information Officer (DoD CIO)	XF						A	A	-	-
4.3.2. Defense Spectrum Organization (DSO)	XF						A	A	-	-
4.3.3. Joint Chiefs of Staff United States Military Command, Control,	XF						A	B	-	-
4.3.4. Military Command, Control, Communications, and Computers	XF						B	B	-	-
4.3.5. Joint Spectrum Center (JSC)	XF						B	B	-	-
4.3.6. Unified/Specified Command	XF						B	B	-	-
4.3.7. DoD Area Frequency Coordinator	XF						B	B	-	-
4.3.8. MAJCOM	XF						B	B	-	-
4.3.9. Wing/Base	XF						B	B	-	-
4.3.10. Test Ranges							B	B	-	-
4.3.11. US Army Spectrum Organization							B	-	-	-
4.3.12. US Navy Spectrum Organization							B	-	-	-
4.3.13. US Marine Corps Spectrum Organization							B	-	-	-
4.3.14. US Air Force Spectrum Organization	XF						B	B	-	-
4.3.15. DoD Policy	XF						B	B	-	-
4.4. OCONUS Spectrum Management Structure (e.g. NATO)							A	A	-	-
4.5. Spectrum Certification										
4.5.1. Processes										
4.5.1.1. Application for Equipment Frequency Allocation (DD Form	XF						B	B	-	-
4.5.1.2. Note to Holders	XF						B	B	-	-
4.5.1.3. Foreign Disclosure	XF						B	B	-	-
4.5.1.4. Commercial Off the Shelf	XF						B	B	-	-
4.5.1.5. Host Nation Coordination	XF						B	B	-	-
4.5.2. Operational Databases (Global Electromagnetic Spectrum										
4.5.2.1. Spectrum Certification Systems (Ex: SCS										
4.5.2.1.1. Purpose	XF						B	B	-	-
4.5.2.1.2. Query Database	XF						2b	b	-	-
4.5.2.1.3. Perform Title Search	XF						2b	b	-	-
4.5.2.1.4. Supportability Comments (e.g. Host Nation Documents)	XF						2b	b	-	-
4.5.2.2. Host Nation Support Systems (Ex: Host Nation										
4.5.2.2.1. Purpose	XF						B	B	-	-
4.5.2.2.2. Query Database	XF						2b	b	-	-

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		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
4.5.2.2.3. Supportability Restrictions	XF						B	B	-	-
4.5.2.3. Joint Spectrum Data Repository (JSDR)										
4.5.2.3.1. Purpose	XF						B	B	-	-
4.5.2.3.2. Query Database	XF						2b	b	-	-
4.5.2.4. Spectrum XXI										
4.5.2.4.1. Overview of Installation							A	A	-	-
4.5.2.4.2. Configure System Preferences							2b	b	-	-
4.5.2.4.3. Help Files							A	B	-	-
4.5.2.5.1. Purpose	XF						A	B	-	-
4.5.2.5.2. Install Topographic Manager (TOPOMAN)	XF						2b	b	-	-
4.5.2.5.3. Topographic Data Acquisition	XF						A	B	-	-
4.5.2.5.4. Import/Activate Data Files	XF						2b	b	-	-
4.5.2.6. Data Exchange										
4.5.2.6.1. Purpose	XF						A	B	-	-
4.5.2.6.2. Perform Initial Data Exchange	XF						2b	b	-	-
4.5.2.6.3. System Interfaces (e.g. STE, SIPRNET)	XF						A	B	-	-
4.5.2.7. Frequency Assignment Module										
4.5.2.7.1. Purpose	XF						A	B	-	-
4.5.2.7.2. Load Initial Frequency Assignments	XF						2b	b	-	-
4.5.2.7.3. Perform Database Query	XF						2b	b	-	-
4.5.2.7.4. Manipulate Database Query	XF						2b	b	-	-
4.5.2.7.5. Use Proposal Functions	XF						2b	b	-	-
4.5.2.7.6. interpret Status Codes	XF						2b	b	-	-
4.5.2.7.7. Interpret Digital Agendas	XF						2b	b	-	-
4.5.2.7.8. Produce Management Reports	XF						2b	b	-	-
4.5.2.7.9. Use System Manager Module	XF						2b	b	-	-
4.5.2.7.10. Use Allotment Plans Module	XF						2b	b	-	-
4.5.2.7.11. Use Interference Analysis Module	XF						2b	b	-	-
4.5.2.7.12. Use Engineering Tools Module	XF						2b	b	-	-
4.5.2.7.13. Use Joint Restricted Frequency List Editor Module							2b	-	-	-
4.5.2.7.14. Use Electronic Warfare Deconfliction Module							2b	-	-	-
4.6. Coordination Policy										

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		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
4.6.1. Allied Partners							B	B	-	-
4.6.2. Frequency Assignment										
4.6.2.1. Peacetime	XF						B	B	-	-
4.6.2.2. Wartime/ Contingency	XF						B	B	-	-
4.7. Position Continuity Plan							-	A	-	-
5. SPECTRUM MANAGEMENT PRINCIPLES ADMINISTRATION										
5.1. Bandwidth Types (e.g. Necessary, Authorized and	XF						B	B	-	-
5.2. Emission Designators										
5.2.1. Composition	XF						B	B	-	-
5.2.2. Formulate	XF						2b	b	-	-
5.2.3. Interpret	XF						2b	b	-	-
5.2.4. Determine	XF						2b	b	-	-
5.3. Radio Communications Service and Station Classes										
5.3.1. Principles	XF						B	B	-	-
5.3.2. Types	XF						B	B	-	-
5.3.3. Research Table of Allocations	XF						2b	b	-	-
5.3.4. Research Footnotes, Provisions and Remarks	XF						2b	b	-	-
5.3.5. Determine Radio Service	XF						2b	b	-	-
5.3.6. Determine Type Station Class	XF						2b	b	-	-
5.4. Standard Frequency Action Format (SFAF)										
5.4.1. Administrative Data	XF						B	B	-	-
5.4.2. Emission Characteristics Data	XF						B	B	-	-
5.4.3. Organizational Data	XF						B	B	-	-
5.4.4. Transmitter Data	XF						B	B	-	-
5.4.5. Space Systems Data	XF						B	B	-	-
5.4.6. Receiver Data	XF						B	B	-	-
5.4.7. Supplemental Details Data	XF						B	B	-	-
5.4.8. SFAF Processing	XF						B	B	-	-
5.4.9. Prohibited Data Entries	XF						B	B	-	-
5.4.10. Restricted Data Entries	XF						B	B	-	-
5.4.11. Data Item Occurrence Identifiers	XF						B	B	-	-
5.4.12. Data Item Purge Identifier	XF						B	B	-	-

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		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
5.4.13. Mass Purge Identifier	XF						B	B	-	-
5.4.14. Multiple Record Identifiers	XF						B	B	-	-
5.4.15. Types of Input for SFAF Proposals (e.g. Theater Unique	XF						B	B	-	-
5.4.16. Mass Record Changes	XF						B	B	-	-
5.4.17. SFAF Transaction Security Rules	XF						B	B	-	-
5.4.18. Classification of Aggregate Frequency Records (e.g. Theater	XF						B	B	-	-
5.5. National and International Databases										
5.5.1. Frequency Resource Record System (FRRS)	XF						B	B	-	-
5.5.2. Government Master File (GMF)							B	B	-	-
5.5.3. Federal Communications Commission (FCC) File							A	A	-	-
5.5.4. International Frequency List (IFL)							A	-	-	-
5.5.5. Area Studies							A	-	-	-
6. MATHEMATICS OF SPECTRUM MANAGEMENT										
6.1. Order of Operations							B	-	-	-
6.2. Convert Between Units of Power, Voltage and Frequency							2b	-	-	-
6.3. Solve Problems Using Common Logarithms							2b	-	-	-
6.4. Convert Decibels							2b	B	-	-
6.5. Power										
6.5.1. Power, Voltage, Current & Resistance							B	B	-	-
6.5.2. Calculate Power Using Decibels							2b	-	-	-
7. RADIO FREQUENCY (RF) PRINCIPLES										
7.1. Modulation Techniques										
7.1.1. Amplitude Modulated	XF						B	B	-	-
7.1.2. Frequency Modulated	XF						B	B	-	-
7.1.3. Pulse/Phase Modulated	XF						B	B	-	-
7.1.4. Principles of Transmitters/ Receivers	XF						B	B	-	-
7.2. Receiver Sensitivity										
7.2.1. Internal Noise Theory							B	B	-	-
7.2.2. Receiver Selectivity							B	B	-	-
7.3. Transmission Lines										
7.3.1. Coaxial Cables (Flexible, Semi-rigid, & Rigid)							A	A	-	-
7.3.2. Open/Parallel Lines							A	A	-	-

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		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
7.3.3. Wave Guides							A	A	-	-
7.3.4. Fiber Optics							A	A	-	-
7.3.5. Dielectric Types							A	A	-	-
7.3.6. Attenuation							A	A	-	-
7.3.7. Standing Wave Ratios							A	A	-	-
7.3.8. Effective Isotropic Radiated Power (EIRP)							B	B	-	-
7.3.9. Effective Transmit Power (ETP)							B	B	-	-
7.4. Antenna Principles										
7.4.1. Common Antennas										
7.4.1.1. Dipole							B	B	-	-
7.4.1.2. Whip							B	B	-	-
7.4.1.3. Longwire							B	B	-	-
7.4.1.4. Horn							B	B	-	-
7.4.1.5. Helical							B	B	-	-
7.4.1.6. Parabolic							B	B	-	-
7.4.1.7. Reflector							B	B	-	-
7.4.1.8. Array							B	B	-	-
7.4.2. Antenna Efficiency							B	B	-	-
7.4.3. Antenna Gain							B	B	-	-
7.4.4. Polarization	XF						B	B	-	-
7.5. Electromagnetic Wave Propagation Theory										
7.5.1. Radio Wave Propagation										
7.5.1.1. Free Space							A	A	-	-
7.5.1.2. Refraction							A	A	-	-
7.5.1.3. Reflection							A	A	-	-
7.5.1.4. Diffraction							A	A	-	-
7.5.1.5. Knife Edge Diffraction							A	A	-	-
7.5.2. Path Loss							A	B	-	-
7.5.3. Multipathing							A	A	-	-
7.5.4. Free Space Loss							A	A	-	-
7.5.5. Calculate Path Loss							2b	-	-	-
7.6. Jam Resistant Communications										

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		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
7.6.1. Frequency Hopping Theory	XF						B	B	-	-
7.6.2. Spread Spectrum Theory	XF						B	B	-	-
7.6.3. Jam Resistant Systems Employment							B	B	-	-
7.6.4. Frequency Agile Systems										
7.6.4.1. Have Quick Systems							B	B	-	-
7.6.4.2. Single Channel Ground and Airborne Radio System							B	B	-	-
7.6.4.3. Joint Tactical Information Distribution System							B	B	-	-
7.6.4.4. Airborne\ Enhanced Position Location Reporting System							B	B	-	-
7.6.4.5. Software Defined Systems							B	B	-	-
8. SPECTRUM PLANNING FOR HIGH FREQUENCY (HF) SYSTEMS										
8.1. Solar Ionospheric Physics										
8.1.1. Physical & Non- Physical Emissions from the Sun							B	B	-	-
8.1.2. Ionization							B	B	-	-
8.1.3. Recombination							B	B	-	-
8.1.4. Earth's Atmosphere							B	B	-	-
8.1.5. Sunspots							B	B	-	-
8.1.6. Sunspot Number							B	B	-	-
8.1.7. Solar Flares							B	B	-	-
8.1.8. Solar Variations							B	B	-	-
8.2. Skywave Fundamentals										
8.2.1. Skip Distance							B	B	-	-
8.2.2. Skip Zone							B	B	-	-
8.2.3. Critical Angle							B	B	-	-
8.2.4. Critical Frequency							B	B	-	-
8.2.5. Maximum Usable Frequency (MUF)							B	B	-	-
8.2.6. Frequency Optimum Transmission (FOT)							B	B	-	-
8.2.7. Lowest Usable Frequency (LUF)							B	B	-	-
8.2.8. Factors for Refraction							B	B	-	-
8.2.9. Ionospheric Sounders							B	B	-	-
8.2.10. Automatic Link Establishment (ALE)							B	B	-	-
8.3. Antenna Radiation Patterns							B	B	-	-
8.4. Antenna Planning										

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		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
8.4.1. Physical Properties of Antennas							B	-	-	-
8.4.2. HF Antenna Selection Based on Patterns Versus Path							B	-	-	-
8.5. Long-Wire Antennas										
8.5.1. Characteristics and Variations							B	-	-	-
8.5.2. Effects on Termination and Directivity							B	-	-	-
8.6. HF Tuning Techniques										
8.6.1. Principles of Sideband Techniques							B	B	-	-
8.6.2. Reference Frequency and Assigned Frequency Identification							B	B	-	-
8.6.3. Occupied Spectrum							B	-	-	-
8.7. HF Groundwave Propagation and Predictions										
8.7.1. Fundamentals	XF						B	B	-	-
8.7.2. Reliability Factors							B	-	-	-
8.7.3. Interpret Propagation Prediction Products							2b	-	-	-
8.8. Use Automated HF Prediction Systems							2b	-	-	-
8.9. HF Systems Engineering										
8.9.1. Principles of HF System Planning	XF						B	B	-	-
8.9.2. Determine best Antenna for Requirements							-	-	-	-
8.9.3. Determine Path Requirements using Propagation							-	-	-	-
8.9.4. Engineer Ground Wave Communications							2b	-	-	-
8.9.5. Engineer Skywave Communications	XF						2b	b	-	-
8.9.6. Complete SFAF Proposals for HF Requirements	XF						2b	b	-	-
8.9.7. Nominate HF Frequencies	XF						2b	b	-	-
9. SPECTRUM PLANNING FOR VERY HIGH (VHF) & ULTRA HIGH FREQUENCY (UHF) SYSTEMS										
9.1. VHF/UHF Amplitude Modulated (AM)/ Frequency										
9.1.1. Principles of VHF/UHF AM Systems Planning							B	-	-	-
9.1.2. Principles of Area Coverage of A/G/A Systems Calculation							B	-	-	-
9.1.3. Principles of AM/FM Air/Ground Communications							B	-	-	-
9.1.4. Complete SFAF Proposals for VHF/UHF AM/FM A/G/A	XF						2b	b	-	-
9.1.5. Nominate VHF/UHF AM A/G/A Frequencies	XF						2b	b	-	-
9.2. VHF/UHF Frequency Modulated (FM) Systems										
9.2.1. Principles of VHF/UHF FM Systems Planning	XF						B	B	-	-
9.2.2. Spectrum Support for Land Mobile Radio (LMR) Systems										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
9.2.2.1. Simplex	XF						B	B	-	-
9.2.2.2. Duplex/ Repeater	XF						B	B	-	-
9.2.2.3. Trunking	XF						B	B	-	-
9.2.3. Principles of System Parameter Calculation (Distance,							B	B	-	-
9.2.4. Complete SFAF Proposals for LMR Requirements	XF						2b	b	-	-
9.2.5. Nominate LMR Frequencies	XF						2b	b	-	-
9.2.6. Complete SFAF Proposals for VHF/UHF G/G Requirements	XF						2b	b	-	-
9.2.7. Nominate VHF/UHF G/G Frequencies	XF						2b	b	-	-
10. SPECTRUM PLANNING FOR MULTICHANNEL SYSTEMS										
10.1. Microwave Antennas										
10.1.1. Parabolic Antennas							B	-	-	-
10.1.2. Horn Antennas							B	-	-	-
10.1.3. Reflectors							B	-	-	-
10.1.4. Principles of the Gain Calculation of Parabolic Antennas							B	-	-	-
10.1.5. Principles of the Gain Calculation of Flat Passive							B	-	-	-
10.2. Line of Site (LOS) Systems										
10.2.1. Principles of Refraction	XF						B	B	-	-
10.2.2. Principles of Direct and Ground Propagation Paths	XF						B	B	-	-
10.2.3. Usable Frequency Range							B	-	-	-
10.2.4. Advantages/ Disadvantages of LOS Systems in Communications							B	-	-	-
10.2.5. LOS Equipment Capabilities and Limitations							B	-	-	-
10.2.6. Basic Configurations of LOS Systems							B	-	-	-
10.2.7. Propagation Considerations in LOS Communications							B	-	-	-
10.2.8. Principles of Free Space Loss for LOS Systems							B	-	-	-
10.2.9. Principles of LOS Systems Path Profile							B	-	-	-
10.2.10. Principles of LOS Systems Predicted Reliability							B	-	-	-
10.2.11. Develop SFAF Proposals for LOS Requirements	XF						2b	b	-	-
10.2.12. Nominate LOS Systems Frequencies	XF						2b	b	-	-
10.2.13. Frequency Share Plan for Operating Multiple Systems at a							A	-	-	-
10.3. Troposcatter (TROPO) Systems										
10.3.1. TROPO Theory							B	B	-	-
10.3.2. Capabilities/ Limitations of TROPO Systems							B	-	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
10.3.3. Principles of TROPO Total Propagation Loss (TPL) Calculation							B	-	-	-
10.3.4. Principles of TROPO Receive Signal Level (RSL)							B	-	-	-
10.3.5. Principles of TROPO Median Receiver Input Signal Level							B	-	-	-
10.3.6. Principles of TROPO Minimum Receiver Input Signal							B	-	-	-
10.3.7. Principles of TROPO Fade Margin and Reliability Calculation							B	-	-	-
10.3.8. Principles of TROPO Total Path Loss Calculation							B	-	-	-
11. SPECTRUM PLANNING FOR SATELLITE SYSTEMS										
11.1. Application of Satellite Systems							A	B	-	-
11.2. Satellite Terminology							A	B	-	-
11.3. Satellite Orbits							A	B	-	-
11.4. Interference Mechanisms Affecting Up/Down Link							A	B	-	-
11.5. SFAF Requirements for Satellite Access Authorization							B	B	-	-
11.6. Develop SFAF Proposals for SATCOM requirements							2b	-	-	-
11.7. Satellite Look and Elevation Angles							B	-	-	-
11.8. Satellite Access Request (SAR) Procedures										
11.8.1. Ground Mobile Forces SAR							A	-	-	-
11.8.2. Tactical UHF SAR (TACSAT)							A	-	-	-
11.8.3. Software Defined Waveforms (MUOS, IW, DAMA,	XF						A	B	-	-
11.9. DoD use of Commercial Satellites							A	B	-	-
12. SPECTRUM PLANNING FOR NON- COMMUNICATIONS SYSTEMS										
12.1. Radar Systems										
12.1.1. Principles of Radar Operations	XF						B	B	-	-
12.1.2. Radar Types and Functions	XF						B	B	-	-
12.1.3. IFF/SIF										
12.1.3.1. Operation	XF						A	B	-	-
12.1.3.2. Modes	XF						A	B	-	-
12.1.3.3. Complete SFAF							2b	-	-	-
12.1.4. Principles of Radar Distance Calculation							B	-	-	-
12.1.5. Complete SFAF Proposals for Radar Requirements							2b	-	-	-
12.1.6. Nominate Radar Frequencies	XF						2b	b	-	-
12.2. Navigational Aid (NAVAID) Systems (e.g. TACAN)										
12.2.1. Principles of NAVAID Operations	XF						B	B	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
12.2.2. NAVAID Types and Functions	XF						B	B	-	-
12.2.3. NAVAID Frequencies	XF						B	B	-	-
12.2.4. Complete SFAF Proposal for NAVAID Requirements							2b	-	-	-
12.2.5. Nominate NAVAID Frequencies	XF						2b	b	-	-
12.2.6. Principles of Global Positioning Systems (GPS)	XF						B	B	-	-
12.2.7. Military Aircraft Collision Avoidance System (MILACAS)							B	B	-	-
12.3. Wireless Technologies (e.g. Radio Frequency Identification,							B	B	-	-
12.4. Remotely Piloted Vehicles							B	B	-	-
12.5. Airborne ISR\C2 (e.g. AWACS, JSTARS)							B	B	-	-
13. ELECTROMAGNETIC COMPATIBILITY (EMC)										
13.1. Fundamentals of EMC										
13.1.1. DoD EMC Programs	XF						B	B	-	-
13.1.2. Effects of Electromagnetic Interference (EMI)	XF						B	B	-	-
13.2. Harmonics and Intermodulation										
13.2.1. EMI Potential	XF						B	B	-	-
13.2.2. Harmonic-Free Complement Generation using							A	-	-	-
13.2.3. Intermodulation- Free Compliment Generation using							A	-	-	-
13.3. Types of Interference										
13.3.1. Co-Channel Interference	XF						B	B	-	-
13.3.2. Adjacent Channel Interference	XF						B	B	-	-
13.3.3. Spurious Responses	XF						B	B	-	-
13.3.4. Spurious Emissions	XF						B	B	-	-
13.3.5. Intermodulation	XF						B	B	-	-
13.3.6. Unintentional Interference/Jamming	XF						B	B	-	-
13.3.7. Power Line Noise	XF						B	B	-	-
13.3.8. Mutual Interference	XF						B	B	-	-
14. ELECTRONIC COUNTERMEASURES (ECM) AND ELECTRONIC WARFARE (EW)										
14.1. Types										
14.1.1. Electronic Attack	XF						B	B	-	-
14.1.2. Electronic Protection	XF						B	B	-	-
14.1.3. Electronic Support	XF						B	B	-	-
14.2. Clearance Process	XF						B	B	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
14.3. Coordination (ECM and EW)	XF						B	B	-	-
15. DOD ELECTROMAGNETIC ENVIRONMENTAL EFFECTS (E3) PROGRAM										
15.1. DoD RADHAZ Program	XF						A	B	-	-
15.2. Effects of Non- Ionizing Radiation on Personnel, Fuels and	XF						A	A	-	-
15.3. Electromagnetic Radiation (EMR) Survey Requirements	XF						B	B	-	-
16. SPECTRUM MANAGEMENT IN A JOINT ENVIRONMENT										
16.1. Joint Task Force (JTF)										
16.1.1. JTF Terminology	XF						A	B	B	-
16.1.2. Associated Publications/ Directives	XF						A	B	B	-
16.1.3. JTF Organizations	XF						A	B	B	-
16.1.4. JTF Command & Control	XF						A	B	B	-
16.1.5. JTF Operational Phases	XF						A	B	B	-
16.2. Information Warfare Purpose and Relationship)	XF						A	A	B	-
16.3. Joint Electromagnetic Spectrum Operations Cell	XF						A	A	B	-
16.4. JTF Planning, Deployment, Buildup, and Employment										
16.4.1. Crisis Action Planning (CAP) Process	XF						A	B	B	-
16.4.2. CAP Spectrum Management Responsibilities	XF						A	B	B	-
16.4.3. Global Command & Control System and Joint Operational							A	-	-	-
16.4.4. Battlefield Spectrum Use Considerations	XF						B	B	B	-
16.5. Joint Automated Communication Electronics										
16.5.1. JACS Overview							A	A	-	-
16.5.2. Master Net List										
16.5.2.1. Overview	XF						A	A	-	-
16.5.2.2. Build							2b	-	-	-
16.5.2.3. Manipulate							2b	-	-	-
16.5.3. Import Data							2b	-	-	-
16.5.4. Complete Frequency Analysis							2b	-	-	-
16.5.5. Generate SFAF Proposals Import/Export							2b	-	-	-
16.5.6. Use Resource Manager Import/Export							2b	-	-	-
16.5.7. Import SFAF Assignments							2b	-	-	-
16.5.8. Generate JCEOI							2b	-	-	-
16.5.9. Produce JCEOI Outputs										

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
16.5.9.1. Prints							2b	-	-	-
16.5.9.2. Reports							2b	-	-	-
16.5.10. Operations										
16.5.10.1. Build HOPSET							2b	-	-	-
16.5.10.2. Build LOADSET							-	-	-	-
16.5.10.3. Install LOADSET into Radio							-	-	-	-
16.6. Service Specific Communications Operations Plans										
16.6.1. Annex K	XF						A	B	B	-
16.6.2. Air Tasking Order (ATO)/Special Instructions (SPINS)	XF						A	B	B	-
16.6.3. Real Time Spectrum Operations (RTSO)										
16.6.3.1. Shipboard Communications Planning							A	-	-	-
16.6.3.2. Shipboard Radar Planning							B	-	-	-
16.6.3.3. Deconflict Strike Group Radar							2b	-	-	-
16.6.3.4. Develop Strike Group Communication Plans							2b	-	-	-
17. ELECTROMAGNETIC BATTLESPACE (EMB) INTERGRITY (ELECTRONIC WARFARE SUPPORT)										
17.1. Interference Reporting Policy										
17.1.1. Joint Spectrum Interference Resolution (JSIR)	XF						B	B	-	-
17.1.2. Air Force Spectrum Interference Resolution (AFSIR)	XF						B	B	-	-
17.2. Electromagnetic Management Battlespace (EMB) Signature										
17.2.1. Electronic Order of Battle (EOB)	XF						A	A	-	-
17.2.2. Conduct EMB Site/ Emitter Survey	XF						2b	b	-	-
17.2.3. Operate EMB Analysis Tools	XF						2b	b	-	-
17.2.4. Operate GPS Receiving Device							2b	b	-	-
17.2.5. Establish Normal Baseline of EMB	XF						2b	b	-	-
17.2.6. Determine Abnormal Activities within the EMB	XF						2b	b	-	-
17.2.7. Determine Availability/Limitations of EMB to	XF						2b	b	-	-
17.3. Interference Resolution										
17.3.1. Direction Finding Techniques	XF						B	B	-	-
17.3.2. Determine Emission Location	XF						2b	b	-	-
17.3.3. Emission Characteristics										
17.3.3.1. Determine Modulation Type	XF						2b	b	-	-
17.3.3.2. Determine Occupied Bandwidth	XF						2b	b	-	-

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
17.3.3.3. Determine Amplitude	XF						2b	b	-	-
17.3.3.4. Determine Emission Transmission Period	XF						2b	b	-	-
17.3.4. Mitigation Techniques										
17.3.4.1. Man-Made Sources										
17.3.4.1.1. Friendly Forces	XF						B	B	-	-
17.3.4.1.2. Hostile Forces	XF						B	B	-	-
17.3.4.1.3. Neutral Sources	XF						B	B	-	-
17.3.4.1.4. Unintentional Sources	XF						B	B	-	-
17.3.4.2. Natural Sources	XF						B	B	-	-
17.3.4.3. Incident Escalation Procedures	XF						B	B	-	-
18. CAPSTONE										
18.1. Pre-Deployment										
18.1.1. Identify AOR							2b	-	-	-
18.1.2. Conduct EMB Site/ Emitter Survey							2b	-	-	-
18.1.3. Establish Normal Baseline of EMB							2b	-	-	-
18.1.4. Operate EMB Analysis Tools							2b	-	-	-
18.1.5. Query HNSWDO Database							2b	-	-	-
18.1.6. Use Spectrum XXI Proposal Functions							2b	-	-	-
18.1.7. Complete SFAF Proposals for VHF/UHF G/G Requirements							2b	-	-	-
18.1.8. Nominate VHF/UHF G/G Frequencies							2b	-	-	-
19. WORK CENTER MANAGEMENT TR: 1D7XX Learning Program (AF e-Learning); AFIs 10-201, 21-103, 146352, DODI1400.25V610_AFI36-807; TO 00-33A-1001; AFJQS XXXXX-212S										
19.1. Management Policies	XF						-	A	A	-
19.2. Training										
19.2.1. Base/Unit Roles & Responsibilities	XF						-	A	B	-
19.2.2. Supervisor / Trainer Roles & Responsibilities	XF						-	A	B	-
19.2.3. Task Certifier Roles & Responsibilities	XF						-	A	B	-
19.2.4. Trainee Responsibilities	XF						-	A	B	-
20. FUNCTIONAL MANAGEMENT TR: 1D7XX Learning Program (AF e-Learning); AFECD; AFIs 36-2651, AFPD 36-28, 38-101, AFMAN 33-396; AFQTP 1D7XX-225E; 1D7XX CFETP										
20.1. Career Field Functional Management	XF						-	A	A	B
20.2. Superintendent Duties							-	-	A	B
20.3. Force Development/ Management	XF						-	A	A	B
20.4. Awards and Recognition	XF						-	-	A	A

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
21. RESOURCE MANAGEMENT TR: 1D7XX Learning Program (AF e-Learning); AFPDs 10-6, 656; AFIs 10-601, 65601 V(1) & V(2)										
21.1. Financial Management							-	-	A	B
21.2. Funded Requirements	XF						-	-	B	B
21.3. Unfunded Requirements	XF						-	-	B	B
22. MANPOWER AND ORGANIZATION TR: 1D7XX Learning Program (AF e-Learning); AFPD 38-1; AFIs 38-101, 38-101										
22.1. Manpower Requirements							-	-	-	B
22.2. Air Force Manpower Standard (AFMS) Application							-	-	-	B
22.3. Manpower Studies							-	-	A	B
22.4. Manpower Products	XF						-	-	A	A
22.5. Allocating Personnel	XF						-	-	A	-

1. Implementation. This STS will be used for technical training provided by AETC for the 3-level course beginning on TBD.

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
1. CABLE AND ANTENNA SYSTEMS CAREER FIELD TR: AFECD, AFH 33-337; AFGM2018-17-02, 31 May 2018, AFI 36-2101; 1D7X3C CFETP; TO 00-33A-1001-WA-1										
1.1. Duties/Responsibilities of AFSC	XC						A	A	-	-
1.2. Cable and Antenna Systems' Role in Cyber	XC						B	B	-	-
1.3. Air Force Specialty Code 1D7X3C										
1.3.1. Read CFETP 1D7XX Part 1	XC						-	-	-	-
1.3.2. Explain Duties of AFSC	XC						-	A	-	-
1.3.3. Explain Responsibilities of AFSC	XC						-	B	-	-
1.3.4. Explain AFSC Core Competencies							-	A	-	-
1.3.5. Explain Qualifications							-	-	-	-
2. CYBERSPACE ORGANIZATIONAL SUCTURE TR: AFPD 10-17; AFGM2018-17-02, 31 May 2018, 38-101, https://cs.eis.af.mil/a6/default.aspx										
2.1. Air Force Units										
2.1.1. Communication Squadrons	XC						-	A	-	-
2.1.2. Combat Communication Squadrons	XC						-	A	-	-
2.1.3. Expeditionary Communication Squadron	XC						-	A	-	-
2.1.4. Contingency Response Wing (CRW)							-	A	-	-
2.1.5. Engineering & Installation Squadron (E&I)	XC						-	A	-	-
3. EXPEDITIONARY COMMUNICATIONS TR: https://aef.afpc.randolph.af.mil, https://jkodirect.jten.mil/Atlas2/faces/page/login/Login.seam; AFIs 10-401, 10-403, 21-109, 33-201 (V2), 23-101										
3.1. Concepts of Aerospace Expeditionary Force (AEF) Employment										
3.1.1. Deployment Process Overview							-	-	-	-
3.1.2. AEF Tempo Banding	XC						-	-	-	-
3.1.3. Enabler Forces	XC						-	-	-	-
3.1.4. Deployment Planning and Execution							-	-	A	-
3.1.5. Unit Type Codes (UTC)	XC						-	A	-	-
4. ENTERPRISE SYSTEMS/PROGRAMS TR: AFI 13 Series, CJCSI 6211.02C, Joint Pub 6-0										

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		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
4.1. Define Non-Secure Networks										
4.1.1. DoD Information Network (DoDIN)							-	A	-	-
4.1.2. Defense Information Systems Network (DISN)							-	A	-	-
4.1.3. Defense Switched Network	XC						-	A	-	-
4.1.4. Non-Secure Internet Protocol Router Network (NIPRNET)	XC						-	A	-	-
4.2. Define Secure Networks										
4.2.1. Secret Internet Protocol Router Network (SIPRNET)	XC						-	A	-	-
4.2.2. Defense Red Switch Network (DRSN)							-	A	-	-
4.2.3. Joint World-Wide Intelligence Communications System (JWICS)							-	A	-	-
4.2.4. National Security Agency (NSA) Net							-	A	-	-
4.3. Nuclear Command and Control Systems TR: CJCSI 3231.01B										
4.3.1. Global High Frequency Network							-	A	-	-
5. C4I SECURITY TR: ACP 122; AFIs 33-129,33-138, 33-332; AFKAG-1&2; AFMAN 33-326; DOD Manuel 5200.01 Volume 1; TO 31S5-4-7205 -8-1 PKI Fundamentals										
5.1. Operations Security (OPSEC) TR: AFI 10-701; AFPD 10-7										
5.1.1. Definition	XC						-	A	-	-
5.1.2. Background							-	-	-	-
5.1.3. Relationship of OPSEC to other Security Programs	XC						-	-	-	-
5.1.4. Vulnerabilities										
5.1.4.1. Open Conversations	XC						-	A	-	-
5.1.4.2. Short Message Services (i.e. texting)	XC						-	A	-	-
5.1.4.3. Social Media	XC						-	A	-	-
5.1.4.4. Family/Friends	XC						-	A	-	-
5.1.4.5. Critical Information	XC						-	A	-	-

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5.2. Information Security (INFOSEC) TR: AFI 31-401 and AFPDs 31-4, 33-2										
5.2.1. Definition	XC						-	A	-	-
5.2.2. Classification Process	XC						-	-	-	-
5.2.3. Declassification Process	XC						-	-	-	-
5.2.4. Information Safeguards										
5.2.4.1. Privacy Act (PA)	XC						-	A	-	-
5.2.4.2. For Official Use Only (FOUO)	XC						-	A	-	-
5.2.4.3. Sensitive Unclassified	XC						-	A	-	-
5.2.4.4. Classified	XC						-	A	-	-
5.3. Emission Security (EMSEC) TR: AFSSI 7700; AFPD 33-2										
5.3.1. Definition	XC						-	A	-	-
5.3.2. Vulnerabilities	XC						-	A	-	-
5.3.3. Protected Distribution Systems (PDS)	XC						-	A	-	-
5.3.4. Separation							-	A	-	-
5.4. Physical Security TR: AFI 31-101; AFPD 31-1										
5.4.1. Definition	XC						-	A	-	-
5.4.2. Secure Area Access Management							-	-	-	-
5.4.3. Facility Security Requirements							-	-	-	-
5.4.4. Identify Violations Procedures	XC						-	-	-	-
5.4.5. Report Violations Procedures	XC						-	-	-	-
6. SAFETY/RISK MANAGEMENT (RM) TR: AFIs 90-802, 91-202, 91-203, 91-302										
6.1. Safety	XC						B	B	-	-
6.2. Risk Management	XC						B	A	A	-
6.3. Air Force Consolidated Occupational Safety Instructions for AFSC	XC						B	A	-	-
6.4. Hazards of the AFSC	XC						A	A	-	-
6.5. Fire Extinguishers	XC						A	A	-	-
6.6. Understanding First Aid	XC						A	A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
6.7. CPR	XC						2b	A	-	-
6.8. Personal and Family Countermeasures	XC						A	A	-	-
6.9. Practice Safety Precautions:										
6.9.1. Maintenance Actions	XC						2b	-	-	-
6.9.2. Energized Equipment	XC						2b	-	-	-
6.9.3. High Voltage Equipment							-	-	-	-
7. AUTHORITY AND USER RESPONSIBILITIES TR: AFDD 3-13, Information Operations; Health Insurance Portability and Accountability Act (HIPAA), http://www.dtic.mil/docine/new_pubs/jp3_13.pdf, USC TITLE 10, 18 and 50										
7.1. Laws and Ethics										
7.1.1. US Codes (e.g. Titles 10, 15, 18, 32, 50)							-	-	B	-
7.1.2. US Telecommunications Laws							-	-	-	-
7.1.3. International Laws Affecting Electronic Communications							-	-	-	-
8. UTILIZE PUBLICATIONS AND DIRECTIVES TR: AFIs 33-360 and 17-series; TOs 00-5-1, 00-33A-1001-WA-1, and other Applicable TO 00-series: https://www.my.af.mil/etims/ETIMS/index.jsp										
8.1. Department of Defense (DOD)/Joint Publications TR: http://www.dtic.mil/whs/directives/corres/pub1.html							-	A	-	-
8.2. Air Force Publications TR: AFI 33-360; AFPD 33-4	XC						-	A	-	-
8.3. AF Publication Types										
8.3.1. Instructions	XC						-	A	-	-
8.3.2. Manuals	XC						-	A	-	-
8.3.3. Policy Directives	XC						-	A	-	-
8.3.4. Pamphlets	XC						-	A	-	-
8.3.5. Guidance Memorandums	XC						-	A	-	-
8.4. Locate AF Publications TR: http://www.e-publishing.af.mil/	XC						-	A	-	-
8.5. Prepare Local Instructions TR: AFI 33-360 and CYSS SharePoint site https://cs2.eis.af.mil/sites/11439/SitePages/home.aspx							-	-	A	-
8.6. Report Publication Errors, Form Deficiencies, and Improvements TR: AFI 33-360	XC						-	A	-	-

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		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
8.7. Allied Communication Publications (ACP) TR: http://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp6_0.pdf							-	A	-	-
8.8. Commercial/Vendor Publications	XC						-	A	-	-
8.9. DISA Publications TR: http://www.disa.mil/About/DISA-Issuances							-	A	-	-
8.10. Use Publications When Performing Work	XC						2b	-	-	-
8.11. Technical Orders (TO)										
8.11.1. Describe Technical Orders							A	A	-	-
8.11.2. Describe Technical Order System	XC						-	A	A	-
8.11.3. Locate TO Numbers and Titles in each TO Index							-	A	-	-
8.11.4. Identify Time Compliance Technical Orders (TCTO) Procedures and Document Completion TR: https://www.my.af.mil/etims/ETIMS/index.jsp; AFI 33-150; TO 00-5-15-WA-1, TO 00-33A-1001-WA-1; and applicable TCTOs							-	-	-	-
8.11.5. Prepare Local Work Cards and Checklist							-	A	B	-
8.11.6. Report Technical Order Improvements	XC						-	A	A	-
8.11.7. Standard Installation Practices Technical Order (SIPTO) TR: TO 00-5-1-WA-1	XC						-	A	-	-
8.12. Telecommunications Industry Association (TIA) Standards TR: https://www.tiaonline.org							A	A	A	-
8.13. Building Industry Consulting Services, International (BICSI) Standards							A	A	A	-
8.14. Military Standard (MIL STD) TR: http://www.dsp.dla.mil/AP_UIL/displayPage.aspx?action=content&contentid= 66							-	A	-	-
9. TEST EQUIPMENT/SPECIALIZED TOOLS TR: Applicable Equipment Commercial Manual										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
9.1. Identify Principles, Capabilities, Limitations of the Following Test Equipment										
9.1.1. Multimeter	XC						A	B	-	-
9.1.2. Optical Time Domain Reflectometer (OTDR)	XC						A	B	-	-
9.1.3. Time Domain Reflectometer (TDR)	XC						A	B	-	-
9.1.4. Bit Error Rate Test (BERT) Set							-	-	-	-
9.1.5. Frequency Counter							-	-	-	-
9.1.6. Network Analyzer							-	-	-	-
9.1.7. Protocol Analyzer							-	-	-	-
9.1.8. Spectrum Analyzer							-	-	-	-
9.1.9. Power Meter							-	-	-	-
9.1.10. RF Signal Generator							-	-	-	-
9.1.11. Insulation Test Set							A	B	-	-
9.1.12. Megaohmeter							-	-	-	-
9.1.13. Built-In Test Equipment							-	-	-	-
9.1.14. Wattmeter							-	-	-	-
9.1.15. Dummy Load							-	-	-	-
9.1.16. Earth Ground Tester							-	-	-	-
9.1.17. Cable and Fault Locator							A	B	-	-
9.1.18. Audible Test Set							-	-	-	-
9.1.19. Premise wire Tester							B	B	-	-
9.1.20. Subscriber Loop Analyzer							-	-	-	-
9.2. Use the Following Test Equipment										
9.2.1. Multimeter	XC						2b	-	-	-
9.2.2. OTDR	XC						2b	-	-	-
9.2.3. TDR	XC						2b	-	-	-
9.2.4. BERT Set							-	-	-	-
9.2.5. Frequency Counter							-	-	-	-
9.2.6. Network Analyzer							-	-	-	-
9.2.7. Protocol Analyzer							-	-	-	-
9.2.8. Spectrum Analyzer							-	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
9.2.9. Power Meter							-	-	-	-
9.2.10. RF Signal Generator							-	-	-	-
9.2.11. Insulation Test Set							2b	-	-	-
9.2.12. Megaohmeter							-	-	-	-
9.2.13. Built-in Test Equipment							-	-	-	-
9.2.14. Wattmeter							-	-	-	-
9.2.15. Dummy Load							-	-	-	-
9.2.16. Earth Ground Tester (Ground Resistance)							2b	-	-	-
9.2.17. Cable and Fault Locator							2b	-	-	-
9.2.18. Audible Test Set							2b	-	-	-
9.2.19. Premise Wire Tester							2b	-	-	-
9.2.20. Subscriber Loop Analyzer							2b	-	-	-
9.3. Identify and use the Following Specialized Tools										
9.3.1. Tone Generator	XC						-	B	-	-
9.3.2. Inductive Amplifier	XC						-	B	-	-
9.3.3. Local Area Network (LAN) Tester							-	B	-	-
9.3.4. Light Source							-	B	-	-
9.3.5. Transit							-	-	-	-
9.3.6. Fusion Splicer							2b	-	-	-
9.3.7. Fiber Optic Source and Meter							2b	-	-	-
9.3.8. Pressure Testing Gauge							-	-	-	-
9.3.9. Multigas Monitor	XC						2b	-	-	-
9.3.10. Modular Splicing System							2b	-	-	-
9.3.11. Tension Meter							2b	-	-	-
9.3.12. Receiver and Exploring Coil							2b	-	-	-
10. STANDARD PRACTICES TR: TOs 00-25-234, 31-10-7, 31-10-13, 31-1-141-1; AFI 32-1065, MIL-STD 2000A, American Public Works Association Policy and American National St; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/ TO_to_Civilian_Std_X-Reference.xlsx										
10.1. State Facts Related to the Following Practices										
10.1.1. Installation										
10.1.1.1. Patch Panels							-	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
10.1.1.2. Cabling	XC						-	-	-	-
10.1.1.3. Equipment							-	-	-	-
10.1.1.4. Antennas	XC						-	-		
10.1.1.5. Fiber Optics Concepts							A	A	-	-
10.1.2. Configuration	XC						B	A	-	-
10.1.3. Interconnection	XC						B	A	-	-
10.1.4. Inspection							B	A	-	-
10.2. Locate Underground Utilities or Cabling							-	-	-	-
10.3. Identify Underground Utilities							-	B	-	-
10.4. Mark Underground Utilities							-	B	-	-
10.5. EMSEC Suppression Techniques							-	B	-	-
10.6. Cable Labeling and Installation Documentation	XC						B	A	-	-
10.7. Wire Color-Coding Standards	XC						B	B	-	-
10.8. Explain Land Line Concepts:										
10.8.1. Copper Cables							-	B	-	-
10.8.2. Coaxial Cables							-	A	-	-
10.8.3. Fiber Optic Cable							-	B	-	-
10.8.4. Interfacing Considerations (e.g., Pinouts, Signal Format)							-	-	-	-
10.9. Concepts Installation of: TR: TO to Commercial X-Reference										
10.9.1. Grounding	XC						B	B	-	-
10.9.2. Bonding	XC						B	B	-	-
10.9.3. Shielding	XC						B	B	-	-
10.9.4. Lightning Protection	XC						B	B	-	-
10.10. Electrostatic Discharge:										
10.10.1. Fundamentals							-	A	-	-
10.10.2. Concepts							-	A	-	-
10.10.3. Handling, Packaging and Storing							-	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
10.11. Equipment Grounding and Lightning Protection:										
10.11.1. Install							-	-	-	-
10.11.2. Remove							-	-	-	-
10.11.3. Perform Inspection and Maintenance							-	-	-	-
10.12. Equipment Familiarization:										
10.12.1. Locate Equipment Elements										
10.12.1.1. Alphanumerics							-	-	-	-
10.12.1.2. Visual Inspection							-	-	-	-
10.13. Basic Troubleshooting Techniques							A	A	-	-
10.14. Concepts of PMI Process							-	-	-	-
11. COMMUNICATIONS PRINCIPLES TR: TO 31-1-141 Series										
11.1. Amplitude Modulation (AM)							-	A	-	-
11.2. Frequency Modulation (FM)							-	A	-	-
11.3. Phase Modulation (PM)							-	A	-	-
11.4. Pulse Code Modulation (PCM)							-	A	-	-
11.5. Bandwidth							-	A	-	-
11.6. Light Wave Communications							-	A	-	-
11.7. Asynchronous and Synchronous Communication Modes							-	A	-	-
11.8. Error Detection and Correction							-	A	-	-
12. ELECICAL POWER SYSTEMS TR: Commercial Manuals										
12.1. Switched Electrical Power Systems							-	A	-	-
12.2. Uninterruptible Power Supplies (UPS)							-	A	-	-
12.3. Batteries							-	A	-	-
12.4. Rectifiers							-	-	-	-
12.5. Inverters							-	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
12.6. Generators							-	A	-	-
13. CABLE AND ANTENNA SYSTEMS FUNDAMENTALS TR: TOs 31W3-10-21 and 31-10 Series; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
13.1. Cable Plant Classification	XC						B	A	-	-
13.2. Cable Composition	XC						B	A	-	-
13.3. Conductor Identification	XC						B	A	-	-
13.4. Procedures to Label and Tag Cable Systems	XC						b	A	-	-
13.5. Procedures to Label and Tag Antenna Systems	XC						b	A	-	-
13.6. Types and Construction of Antenna Systems							B	A	-	-
13.7. Antenna Fundamentals:										
13.7.1. Wave Propagation	XC						B	A	-	-
13.7.2. Wave Length	XC						B	A	-	-
13.7.3. Wave Velocity	XC						B	A	-	-
13.7.4. Antenna Impedance	XC						B	A	-	-
13.7.5. Transmission Lines:										
13.7.5.1. Characteristics							B	A	-	-
13.7.5.2. VSWR Fundamentals	XC						A	A	-	-
13.8. Physical Characteristics of Antennas							-	A	-	-
13.9. Frequency Characteristics of Antennas							-	A	-	-
14. CABLE SPLICING TR: TO 31W3-101-21 and 31-10 Series; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
14.1. Splice Cables Using Modular Splicing System							2b	B	-	-
14.2. Splice Plastic-Sheath Plastic-Insulated Cable										
14.2.1. Straight Splice							2b	B	-	-
14.2.2. Bridge Splice							2b	B	-	-
14.2.3. Butt Splice							2b	B	-	-
14.2.4. Foldback Method							2b	B	-	-
14.3. Splice Cable:										
14.3.1. Filled Cable							-	B	-	-
14.4. Splice Fiber Optic Cable by:										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
14.4.1. Setting Up Splice Point							2b	B	-	-
14.4.2. Mechanical Splice Method							-	B	-	-
14.4.3. Fusion Splice Method							2b	B	-	-
14.5. Install Fiber Optic Splice Closures							2b	B	-	-
14.6. Clear Cap Conductors							2b	B	-	-
14.7. Install a Connector on a Sanded Flexible Coaxial Cable							-	-	-	-
14.8. Install a Connector on a Solid Center Conductor, Semi-Flexible Coaxial Cable							-	-	-	-
14.9. Make a Cable Section Replacement							2b	B	-	-
14.10. Make a Cable Transfer							-	B	-	-
14.11. Repair Major/Minor Sheath Damage on a Non- Pressurized Plastic- Sheath Cable							2b	B	-	-
14.12. Make Cable Count Changes							2b	B	-	-
14.13. Install Temporary Bonds							2b	B	-	-
15. CABLE SEALING TR: TO 31W3-101-21										
15.1. Seal Cable Ends										
15.1.1. End Cap							2b	B	-	-
15.1.2. Cured Rubber (CR) Tape							2b	A	-	-
15.1.3. Stainless Steel Closure							2b	B	-	-
15.2. Seal Splice Opening										
15.2.1. Temporary Seal							2b	B	-	-
15.2.2. Stainless Steel Closure Method							2b	B	-	-
16. CABLE TERMINATION TR: TO 31-10-7; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
16.1. Install Main Distribution Frame (MDF)							-	B	-	-
16.2. Install Central Office Stubbed Protectors							-	B	-	-
16.3. Install Central Office Unstubbed Protectors							-	B	-	-
16.4. Install Tip Cables							-	B	-	-

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		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
16.5. Terminate Conductors on an MDF							-	B	-	-
16.6. Stencil an MDF with the Proper Information							-	B	-	-
16.7. Install Protected Terminals and Housings in:										
16.7.1. Buried Distribution Systems							B	B	-	-
16.7.2. Aerial Distribution Systems							-	A	-	-
16.7.3. Building Distribution Systems							B	B	-	-
16.8. Terminate Cable on Protected Terminals in:										
16.8.1. Buried Distribution Systems							2b	B	-	-
16.8.2. Aerial Distribution Systems							-	A	-	-
16.8.3. Building Distribution Systems							2b	B	-	-
16.9. Terminate Fiber Optic Cable Using:										
16.9.1. Splicer Support Shelf/Patch Panel							2b	B	-	-
16.9.2. Splice ay Configuration							2b	B	-	-
16.10. Install Connectors on Fiber Optic Cable:										
16.10.1. Epoxy Connectors							-	-	-	-
16.10.2. Crimped Connectors							2b	B	-	-
16.11. Label Terminals with the Proper Information							B	B	-	-
16.12. Perform Terminating Techniques Using the:										
16.12.1. Mechanical Method							-	B	-	-
16.12.2. Wire Wrap Method							-	-	-	-
16.12.3. Terminate Conductors Using the Punch-Down Method							2b	A	-	-
16.12.4. Crimp Method							2b	-	-	-
16.12.5. Hot Melt Type Connector							2b	-	-	-
17. PRINCIPLES OF WORKING ALOFT TR: TOs 31-10-3, 31-10-19, 31W3-101-21, 32-1-101; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7% 20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
17.1. Inspect Climbing Equipment							2b	-	-	-
17.2. Adjust Climbing Equipment							2b	-	-	-
17.3. Prepare Work Area by Inspecting Poles and Surrounding Area							2b	-	-	-
17.4. Climb/Work Aloft on an Unstepped Pole (See Note 1)							2b	-	-	-
17.5. Climb/Work Aloft on a Stepped Pole (See Note 1)							2b	-	-	-
17.6. Climb/Work Aloft on a Tower (See Note 1)							2b	-	-	-
17.7. Perform Rescue Procedures										
17.7.1. Pole top							2b	-	-	-
17.7.2. Tower							2b	-	-	-
17.8. Perform Standard Hand Signals							2b	B	-	-
18. AERIAL CABLE SYSTEMS TR: TOs 31-1-141 Series, 31-10-3, 31-10-14, 31W3-101-21, 31R2-2GRC-1232; EIDR-700-7; Applicable Commercial Manuals; TO to Comm Std X- Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X- Reference.xlsx										
18.1. Principles of an Aerial Cable System							B	-	-	-
18.2. Installing Lightning Protection:										
18.2.1. Install Continuous Lightning Protection							b	-	-	-
18.2.2. Install Non- Continuous Lightning Protection							2b	-	-	-
18.3. Install Anchors							b	-	-	-
18.4. Install Antenna Support Guys:										
18.4.1. Temporary							2b	B	-	-
18.4.2. Permanent							2b	B	-	-
18.5. Install Poles Using the Construction Vehicle (Crane, Low-Pro, Mid- Pro) Method							2b	-	-	-
18.6. Secure Tools and Equipment at Working Height							2b	B	-	-
18.7. Install Suspension Sand							2b	B	-	-
18.8. Remove Suspension Sand							2b	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
18.9. Remove Two Spans of Aerial Cable and Associated Hardware							2b	-	-	-
18.10. Install Cable Supports							2b	-	-	-
18.11. Inventory Material for a Self-Supporting Tower							2b	-	-	-
18.12. Install Self- Supporting Antenna Sections Using a Construction Vehicle (Crane, Low-Pro, Mid- Pro) (See note 7)							2b	B	-	-
18.13. Remove Self- Supporting Antenna Sections Using a Construction Vehicle (Crane, Low-Pro, Mid- Pro) (See note 7)							b	B	-	-
18.14. Plumb Antenna Supports Using the Plumb Bob Method							2b	-	-	-
18.15. Safety Climb Device Installation							b	B	-	-
19. UNDERGROUND CABLE SYSTEMS TR: TO 31-10-3; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
19.1. Enter a Confined Space	XC						b	-	-	-
19.2. Prepare Subterranean Work Area										
19.2.1. Place Warning Devices, Manhole Guards and Personnel	XC						2b	B	-	-
19.2.2. Test Subterranean Atmosphere	XC						2b	B	-	-
19.2.3. Identify Manhole Classification	XC						-	A	-	-
19.2.4. Prevent Entrance of Water	XC						b	B	-	-
19.2.5. Ventilate Subterranean Structures	XC						2b	B	-	-
19.2.6. Monitor the Air Quality at Required Intervals While Working in a Confined Space	XC						2b	A	-	-
19.2.7. Set Up Ground Tents							-	-	-	-
19.2.8. Perform Manhole Rescue Procedures	XC						2b	B	-	-
19.2.9. Master Entry Plan (MEP) TR: AFI 91-203, chap 23										
19.2.9.1. MEP Principles	XC						B	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
19.2.9.2. Describe MEP Elements	XC						-	-	-	-
19.2.9.3. Develop MEP	XC						-	-	-	-
19.3. Install a Continuous Duct Rod in Conduit Between Runs							2b	-	-	-
19.4. Clean Cable Ducts							2b	B	-	-
19.5. Install Pulling-In Rope							2b	B	-	-
19.6. Prepare Cable Ends For Pulling Using a:										
19.6.1. Core Hitch							2b	B	-	-
19.6.2. Cable Grip							2b	B	-	-
19.7. Prepare Cable-Pulling Apparatus at Manhole Opening							-	B	-	-
19.8. Test the Length of Cable on a Reel							b	-	-	-
19.9. Match a Specified Pulling Length of Cable to an Engineered Project Drawing							2b	-	-	-
19.10. Install Cable Racks							b	B	-	-
19.11. Install Copper Core Cable							-	B	-	-
19.12. Remove Copper Core Cable							-	A	-	-
19.13. Install an Underground Fiber Optic Inner Duct/ Mesh Fabric							b	-	-	-
19.14. Install an Underground Fiber Optic Cable							b	B	-	-
19.15. Remove Fiber Optic Cable							-	A	-	-
19.16. Install a Pulling Frame, Sheave and Sheave Shackle over a Manhole Opening							2b	-	-	-
19.17. Install a Cable Through Two Manhole Runs With One 90-Degree Turn using a Cable Reel Truck (See Note 7)							2b	-	-	-
19.18. Remove Cable From Two Manhole Runs With One 90-Degree Turn using a Cable Reel Truck (See Note 7)							2b	-	-	-
19.19. Form Cable in Subterranean Structures by:										
19.19.1. Hand							2b	B	-	-
19.19.2. Using Cable Jacks							b	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
19.19.3. Using Bending Springs							-	B	-	-
19.20. Rack Cable in Subterranean Structures Using the:										
19.20.1. Permanent Method							2b	B	-	-
19.20.2. Temporary Method							-	B	-	-
19.21. Install Bonding Ribbon in Subterranean Structures							b	B	-	-
19.22. Bond Cable in Subterranean Structures							-	B	-	-
19.23. Bond a Stainless Steel Closure in a Manhole							2b	-	-	-
19.24. Tag Cable in Subterranean Structures							b	B	-	-
20. BURIED CABLE SYSTEMS TR: TO 32-1-101-WA-1										
20.1. Mark Buried Cable Path Prior to Digging	XC						2b	B	-	-
20.2. AF Form 103 Clearance Permit Through Base Civil Engineering (BCE) Prior to Digging	XC						b	A	-	-
20.3. Locate Existing Buried Cables Using Test Equipment										
20.3.1. Locate an Existing Cable							2b	B	-	-
20.3.2. Determine the Depth of a Cable							2b	B	-	-
20.4. Excavate Cable							-	B	-	-
20.5. Set Up Cable for Splicing							-	B	-	-
20.6. Set Up a Ground Tent							-	-	-	-
20.7. Protect Cable Plant							-	B	-	-
20.8. Prepare Splice Pit and Trench for:										
20.8.1. Copper Core Cable							b	B	-	-
20.8.2. Fiber Optic Cable							-	B	-	-
20.9. Prepare a Splice Pit for Splicing a Cable using the Single-Offset Method							b	-	-	-
20.10. Prepare a Splice Pit for Splicing a Cable using the Double-Offset Method							b	-	-	-
20.11. Backfill Splice Pits and Trenches using the:										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
20.11.1. Manual Method							-	-	-	-
20.11.2. Mechanical Method							-	-	-	-
20.11.3. Backfill a Cable Trench for a Base Distribution System							b	-	-	-
20.11.4. Backfill a Splice Pit for a Base Distribution System							b	-	-	-
20.12. Install Cables Using the:										
20.12.1. Manual Method							-	-	-	-
20.12.2. Mechanical Method							-	-	-	-
20.13. Install Buried Cables to Include:										
20.13.1. Copper Core										
20.13.1.1. Install a Copper Core Cable using the Open Trench Method							b	-	-	-
20.13.1.2. Install a Copper Core Cable using the Cable Plow Method							b	-	-	-
20.13.2. Coaxial:										
20.13.2.1. Flexible							-	A	-	-
20.13.3. Control Cable							-	-	-	-
20.13.4. Fiber Optic										
20.13.4.1. Install a Buried Fiber Optic Inner- Duct							b	-	-	-
20.13.4.2. Install a Buried Fiber Optic Cable using the Plow Method							b	-	-	-
20.13.4.3. Install a Buried Fiber Optic Cable using the Trench Method							b	-	-	-
20.14. Install Cable Markers							-	-	-	-
20.15. Cable Route Markers										
20.15.1. Types of Cable Route Markers							B	A	-	-
20.15.2. Marking Standards of a Cable Route Marker							B	A	-	-
20.15.3. Placement Requirements of a Cable Route Marker							B	A	-	-
20.16. Cable Reel										
20.16.1. Place a Cable using Cable Reel Jacks							b	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
20.16.2. Place a Cable using Cable Reel Stands							b	-	-	-
20.16.3. Use a Cable Trailer to Place a Cable Reel (See Note 7)							2b	-	-	-
21. FIBER OPTICS TR: TO 31-10-34; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
21.1. Theory of Fiber Optic Lightwave Communication	XC						B	B	-	-
21.2. Characteristics of Fiber Optic Cable Types										
21.2.1. Single Mode Fibers							B	A	-	-
21.2.2. Multimode Fibers							B	A	-	-
21.2.3. Tight-Tube							B	A	-	-
21.2.4. Loose-Tube							B	A	-	-
21.2.5. Hybrid Fiber Optic Cable							B	A	-	-
21.3. Test Cables Using:										
21.3.1. OTDR										
21.3.1.1. Measure the Length of a Fiber Optic Cable							2b	-	-	-
21.3.1.2. Measure the Db Loss of a Fiber Optic Cable							2b	-	-	-
21.3.2. Optical Power Meter										
21.3.2.1. Measure the Db Loss of an Optical Fiber							2b	-	-	-
21.4. Install Fiber Optic Cable										
21.4.1. Interior Building Fiber Optic Cable							b	-	-	-
21.4.2. Fiber Optic Splice Enclosure							2b	-	-	-
21.5. Splice Fiber Optic Cable										
21.5.1. Mechanical Splices							2b	-	-	-
21.5.2. Optical Fusion Splicer							2b	-	-	-
21.5.3. Arrange Fiber Optic Splices in a Splice ay							2b	-	-	-
21.6. Install Fiber Optic Connections										
21.6.1. Terminate at Patch Panel							b	-	-	-
21.6.2. No Polish-Type Pre-Polished Connector							2b	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
21.6.3. Small Form Connectors							2b	-	-	-
22. CABLE TESTING TR: TOs 31-1-141-1, 33A1-12-1300-1, 33A1-12-310-1; Applicable Commercial Manuals										
22.1. Wire Transmission Principles	XC						-	B	-	-
22.2. Measure Insulation Resistance	XC						2b	B	-	-
22.3. Use a Multimeter to Measure:										
22.3.1. Loop Resistance							2b	B	-	-
22.3.2. Say Voltage							2b	B	-	-
22.4. Detect Cable Faults Using a:										
22.4.1. Multimeter							2b	B	-	-
22.4.2. Cable Fault Detector							2b	-	-	-
22.5. Detect Splicer's Errors Using a:										
22.5.1. Multimeter							2b	B	-	-
22.5.2. Tone Set							-	B	-	-
22.6. Identify Conductors in Non-Working Cable Using a:										
22.6.1. Multimeter	XC						-	B	-	-
22.6.2. Tone Set	XC						-	B	-	-
22.7. Locate Earth Return Faults in Non- Working Cable using the Cable and Fault Locator Test Set							2b	-	-	-
22.8. Locate Non- Resistive Cable Faults on Non-Working Cable using a Subscriber Loop Analyzer Test Set							2b	-	-	-
22.9. Locate Resistive- Type Faults on a Non- Working Cable using a Subscriber Loop Analyzer Test Set							2b	-	-	-
22.10. Locate Split Pairs Faults using a Subscriber Loop Analyzer Test Set							2b	-	-	-
22.11. Identify Conductors in Working Cable using a:										
22.11.1. Tone Set and Amplifier							2b	B	-	-
22.11.2. Multimeter							2b	B	-	-
22.12. Locate Cable Faults Using a:										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
22.12.1. Tone Set, Exploring Coil and Amplifier							2b	B	-	-
22.12.2. Fault Locator							2b	B	-	-
22.12.3. Open Fault Locator							2b	B	-	-
22.12.4. TDR							2b	B	-	-
22.13. Locate Cable Faults in a Working Cable Section using a Subscriber Loop Analyzer Test Set							-	-	-	-
22.14. Types of Splice Errors	XC						B	B	-	-
22.15. Measure Resistance of Station Grounds							b	B	-	-
22.16. Record Station Ground Test Data on Applicable Forms							-	B	-	-
23. LOCAL AREA NETWORK/WIDE AREA NETWORK (LAN/WAN) DISIBUTION SYSTEMS TR: Commercial Manuals, EIA/TIA 569, 570; TIA/EIA 568A, 606, 607, TSB 67, TSB 72, AF e-Learning										
23.1. Theory of the Following LAN/WAN Distribution Systems:										
23.1.1. International Standards Organization (ISO) Open Systems Interconnect (OSI) Model							A	B	-	-
23.1.2. Topology of LAN/WAN Distribution Systems							-	A	-	-
23.1.3. Use of Multiplexers in LAN/WAN Distribution Systems							-	A	-	-
23.1.4. Use of Modems in LAN/WAN Distribution Systems							-	A	-	-
23.1.5. Use of Routers, Hubs and Servers in LAN/WAN Distribution Systems							-	A	-	-
23.2. Types of LAN/WAN Transmission Methods:										
23.2.1. Single Mode Fiber Optics							-	A	-	-
23.2.2. Multimode Fiber Optics							-	A	-	-
23.2.3. Unshielded Twisted Pair\Shielded Twisted Pair (UTP\STP) (Intra-Building Wiring)							-	A	-	-
23.3. Install LAN/WAN Distribution Systems to include:										
23.3.1. Single Mode Fiber Optics							-	B	-	-
23.3.2. Multimode Fiber Optics							-	B	-	-
23.3.3. UTP\STP (Intra- Building Wiring)							-	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
23.3.4. Patch Panels and Associated Hardware							-	B	-	-
23.4. Maintain LAN/WAN Distribution Systems to include:										
23.4.1. Single Mode Fiber Optics							-	B	-	-
23.4.2. Multimode Fiber Optics							-	B	-	-
23.4.3. Patch Panels and Associated Hardware							-	B	-	-
23.4.4. UTP\STP (Intra- Building Wiring)							-	B	-	-
23.5. Terminate LAN/WAN Cables by:										
23.5.1. Installing Twisted Pair Connectors							-	B	-	-
23.5.2. Installing Work Area Outlets							2b	B	-	-
23.5.3. Fabricating Patch Cords							2b	B	-	-
23.5.4. Installing Cable Methods in/through Protected Distribution System (PDS) TR: NSTISSI_7003, https://www.cnss.gov/CNSS/							A	B	-	-
24. TELEPHONY DEVICES INSTALLATION AND MAINTENANCE TR: TOs 31-10-7, 31-10-13, TIA/EIA 568A & 569; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7% 20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
24.1. Install Cross-Connects on Distribution Frames							2b	B	-	-
24.2. Terminate Sapping Connections							-	-	-	-
24.3. Install Cross-Connects for Premise							2b	B	-	-
24.4. Perform System Operational Test to Validate Installation							2b	-	-	-
24.5. Perform System Corrective Maintenance							2b	-	-	-
25. INTRA-BUILDING DISIBUTION SYSTEMS TR: EIA/TIA 568 Series, TIA/EIA 606, Tele-communications System Bulletin (TSB) – 67, 606 Standard; TO 00-33D-3003-WA-1; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X- Reference.xlsx										
25.1. Principles of Intra-Building Wiring Distribution System	XC						B	B	-	-
25.2. Installation Principles and Associated Hardware	XC						B	B	-	-
25.3. Install, Route, Form, Terminate and Label Cables/Associated Wiring							2b	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
25.4. Test Distribution System							2b	-	-	-
25.5. Install Racks, Patch Panels and Wire Management Systems							-	-	-	-
25.6. Principles of-Certify and Document Distribution System	XC						-	B	-	-
25.7. Install, Route, Form, Terminate and Label Cables/Associated Wiring in a Protected Distributions System							A	B	-	-
26. OPERATE AND MAINTAIN SPECIAL PURPOSE VEHICLES TR: AFI 24-301; AFI 91- Series; TO36A11-18 Series										
26.1. Driver Safety Practices							A	A	-	-
26.2. Inspect for Proper Configuration of Tools, Parts and Materials							-	-	-	-
26.3. Purpose and Use of Special Purpose/ Construction Vehicles							A	A	-	-
26.4. Perform Operator Maintenance on Special Purpose Vehicles and Accessories to include:										
26.4.1. Line Trucks							-	-	-	-
26.4.2. Low Profile							-	-	-	-
26.4.3. Cable Reel Truck							-	-	-	-
26.4.4. Trenchers							-	-	-	-
26.4.5. Cable Trailers:										
26.4.5.1. Hydraulic							-	-	-	-
26.4.5.2. Non-Hydraulic							-	-	-	-
26.4.6. Forklift							-	-	-	-
26.4.7. Backhoes							-	-	-	-
26.4.8. Pole Trailers							-	-	-	-
26.4.9. Tractor and Trailer							-	-	-	-
26.4.10. Cable Plow							-	-	-	-
26.4.11. Combination Pole and Cable Trailer							-	-	-	-
26.4.12. Fiber Optic Splicing Trailer							-	-	-	-
26.4.13. General Power Component (GPC) Utility Trailer							-	-	-	-
26.5. Operate Special Purpose Vehicles and Accessories to include:										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
26.5.1. Line Trucks							-	-	-	-
26.5.2. Low Profile (See Note 7)							2b	-	-	-
26.5.3. Cable Reel Truck (See Note 7)							2b	-	-	-
26.5.4. Trenchers							-	-	-	-
26.5.5. Cable Trailers:										
26.5.5.1. Hydraulic							-	-	-	-
26.5.5.2. Non-Hydraulic							-	-	-	-
26.5.6. Forklift							-	-	-	-
26.5.7. Backhoes							-	-	-	-
26.5.8. Pole Trailers							-	-	-	-
26.5.9. actor and Trailer							-	-	-	-
26.5.10. Cable Plow							-	-	-	-
26.5.11. Combination Pole and Cable Trailer							-	-	-	-
26.5.12. Fiber Optic Splicing Trailer							-	-	-	-
26.5.13. General Power Component (GPC) Utility Trailer							b	-	-	-
27. CABLE AND ANTENNA SYSTEMS COMMON MAINTENANCE PRACTICES TR: AFI 91-203; TOs 31-10-3, 31W3-10-21, 36A11-18 series; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
27.1. Utilize Auxiliary Equipment to include:										
27.1.1. Water Pumps:										
27.1.1.1. Electrical							-	-	-	-
27.1.1.2. Mechanical							-	-	-	-
27.1.2. Generators							-	-	-	-
27.1.3. Blowers							-	-	-	-
27.1.4. Heaters							-	-	-	-
27.2. Use Power Actuated Tools to include:										
27.2.1. Pneumatic							b	-	-	-
27.2.2. Powder							b	-	-	-
27.2.3. Electric							b	-	-	-
27.3. Types of Fiber Ropes	XC						B	A	-	-
27.4. Care of Fiber Ropes	XC						b	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
27.5. Explain how Fiber Ropes are used in this AFSC							B	B	-	-
27.6. Splice Fiber Ropes										
27.6.1. Crown							-	-	-	-
27.6.2. Eye							-	-	-	-
27.6.3. Long							-	-	-	-
27.6.4. Short							-	-	-	-
27.7. Tie Knots in Fiber Ropes										
27.7.1. Square							2b	A	-	-
27.7.2. Bowline-on-a-Bight							2b	A	-	-
27.7.3. Sheetbend							2b	-	-	-
27.7.4. Bowline	XC						2b	A	-	-
27.7.5. Double Bowline	XC						2b	A	-	-
27.7.6. Intermediate Bowline							2b	A	-	-
27.8. Tie Hitches in Fiber Ropes										
27.8.1. Clove	XC						2b	A	-	-
27.8.2. Timber							2b	A	-	-
27.8.3. Snubbing							2b	A	-	-
27.9. Rolled Eye Wire Rope Splice							-	-	-	-
27.10. Wire Rope										
27.10.1. Most Common Types							-	-	-	-
27.10.2. Most Common Uses							-	-	-	-
27.10.3. Caring For							-	-	-	-
27.11. Use Rigging Techniques to Install Antenna and Cable Systems							2b	B	-	-
27.12. Load and Unload Cable Reels							2b	B	-	-
27.13. Position Cable Trucks/Reels for:										
27.13.1. Aerial Construction							b	B	-	-
27.13.2. Buried Construction							b	B	-	-
27.13.3. Underground Construction							2b	B	-	-
27.13.4. Cable Reel Jacks							-	B	-	-
27.13.5. Cable Reel Stand							-	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
27.13.6. Cable Trailer							-	B	-	-
27.14. Identify the Purpose and Use of Common Hand Tools	XC						-	A	-	-
27.15. Maintain Common Hand Tools for Safe Use	XC						b	-	-	-
27.16. Identify the Purpose and Use of Construction Tools							-	B	-	-
27.17. Maintain Construction Tools							b	B	-	-
27.18. Identify Purpose of Construction Equipment							-	B	-	-
27.19. Maintain Construction Equipment							-	B	-	-
28. ANTENNA SYSTEMS TR: TOs 31-1-141 Series, 31-10-14, 31R2-2GRC-1232, 31-10-3, 31R5-4-142-2; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
28.1. Antenna Fundamentals	XC						B	B	-	-
28.2. Transmission Line Fundamentals	XC						B	B	-	-
28.3. Antenna Types and Characteristics	XC						B	B	-	-
28.4. Non-Self-Supporting Antenna Systems										
28.4.1. Maintain Guys							b	-	-	-
28.4.2. Maintain Anchors							b	-	-	-
28.5. Maintain Hazard Markings:										
28.5.1. Hazard Lights							b	-	-	-
28.5.2. Warning Signs, Symbols and Markings							b	-	-	-
28.6. Use a Transit to:										
28.6.1. Site Anchor Locations							-	-	-	-
28.6.2. Establish Datum Lines							-	-	-	-
28.7. Install the Following Antenna Components:										
28.7.1. Radiators							-	B	-	-
28.7.2. Reflectors							-	B	-	-
28.7.3. Rotator Controls							-	B	-	-
28.7.4. Azimuth Controls							-	B	-	-
28.7.5. Mechanical Controls							-	B	-	-
28.7.6. Antenna Support Hardware							-	B	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
28.8. Align Reflectors							-	-	-	-
28.9. Maintain Antenna Components:										
28.9.1. Radiators							-	-	-	-
28.9.2. Reflectors							-	-	-	-
28.9.3. Rotator Controls							-	-	-	-
28.9.4. Azimuth Controls							-	-	-	-
28.9.5. Mechanical Controls							-	-	-	-
28.9.6. Antenna Support Hardware							-	-	-	-
28.10. Antenna Support Poles:										
28.10.1. Load and Unload (See Note 8)							2b	-	-	-
28.10.2. Transport Antenna Support Poles							b	-	-	-
28.11. Install Antenna Support Pole: (See Note 8)										
28.11.1. Construction Vehicle							2b	-	-	-
28.11.2. Crane							-	-	-	-
28.12. Remove Antenna Support Pole: (See Note 8)										
28.12.1. Construction Vehicle							2b	-	-	-
28.12.2. Crane							-	-	-	-
28.13. Remove the Following Antenna Components:										
28.13.1. Radiators							-	-	-	-
28.13.2. Reflectors							-	-	-	-
28.13.3. Rotator Controls							-	-	-	-
28.13.4. Azimuth Controls							-	-	-	-
28.13.5. Mechanical Controls							-	-	-	-
28.13.6. Antenna Support Hardware							-	-	-	-
28.14. Install Antenna Ground Reflector Systems							b	-	-	-
28.15. Maintain Open Wire Transmission Lines							-	-	-	-
28.16. Parabolic Microwave Dish: (See Note 8)										
28.16.1. Install and Remove							2b	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
28.16.2. Align							2b	-	-	-
28.16.3. Perform a Scheduled PMI							2b	-	-	-
29. CLIMBING CERTIFICATIONS/ RESCUE PROCEDURES TR: AFI 91-203, OSHA 1910.146, 1926; TOs 31-10-3, 31-10-19, 31W3-10-21; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
29.1. Tower Climbing							3c	-	-	-
29.2. Unstepped Pole							3c	-	-	-
29.3. Pole Top Rescue							3c	-	-	-
29.4. Tower Rescue							3c	-	-	-
29.5. Manhole Rescue							3c	-	-	-
29.6. Confined Space Certification							3c	-	-	-
30. ANTENNA SYSTEMS INSTALLATION AND MAINTENANCE TR: AFI 33 Series; TOs 31-1-141 Series, 31-10 Series, 33A1-15-39-1, 00-33D-3004-WA-1 and Applicable Technical Data; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
30.1. Maintain RF Coaxial Cables:										
30.1.1. Flexible							-	B	-	-
30.1.2. Rigid							-	-	-	-
30.2. Install Connectors on:										
30.2.1. Flexible Coaxial Cable							-	B	-	-
30.2.2. Flexible Waveguide							-	B	-	-
30.3. Install Waveguides:										
30.3.1. Flexible							-	-	-	-
30.3.2. Rigid							-	-	-	-
30.4. Maintain Waveguides:										
30.4.1. Flexible							-	B	-	-
30.4.2. Rigid							-	B	-	-
30.5. Remove Waveguides:										
30.5.1. Flexible							-	-	-	-
30.5.2. Rigid							-	-	-	-
30.6. Perform Scheduled PMIs on:										
30.6.1. Coaxial cables							-	B	-	-
30.6.2. Antennas							-	B	-	-
30.6.3. Support Structures							b	B	-	-
30.6.4. Antenna Hardware							-	B	-	-
30.6.5. Grounding Systems							-	-	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
30.7. Use Project Support Documentation and CSIRs to:										
30.7.1. Install Antenna Systems							-	-	-	-
30.7.2. Maintain Antenna Systems							-	A	-	-
31. COMMUNICATIONS DISIBUTION MAPS, RECORDS AND DIAGRAMS TR: TOs 00-33D-3004-WA-1 and 00-33D-3003-WA-1										
31.1. Update a Communications Mission Data Set	XC						2b	B	-	-
31.2. Configuration Accounting Information Retrieval System (CAIRS) TR: Commercial Publications							A	A	-	-
32. ELECTRONIC PRINCIPLES TR: TO 31-1-141-2-WA-1 Ch. 7, 9, and 10										
32.1. Identify Relationships of Basic Facts Associated with:										
32.1.1. Direct Current (DC)							B	-	-	-
32.1.2. Alternating Current (AC)							B	-	-	-
32.1.3. Inductors and Capacitors							B	-	-	-
33. MANHOLE PREVENTIVE MAINTENANCE INSPECTION (PMI) TR: AFI 91-203; TOs 31W3-10-21, 31-10-6, 31-10-13, 31-10-12, 31-10-3; TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
33.1. Housekeeping							A	A	-	-
33.2. Minor Repairs										
33.2.1. Manhole							A	A	-	-
33.2.2. Conduit							A	A	-	-
33.3. Prevention of Water Entrance							A	A	-	-
33.4. Rodding and Cleaning							2b	B	-	-
33.5. Maintenance and Repair of Cable Bonds										
33.5.1. Grounding							2b	B	-	-
33.6. Detection/ Prevention of Corrosion in Underground Plant							A	A	-	-
33.7. Update CSIR Drawings							A	A	-	-
33.8. Quality Assurance										
33.8.1. Racks/Supports							B	A	-	-
33.8.2. Conduits							B	A	-	-
33.8.3. Tags/Markings							B	A	-	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
33.9. Safety							B	A	-	-
34. TOWER/POLE PREVENTIVE MAINTENANCE INSPECTION (PMI) TR: T.O. 31-10-19, 31-10-21,1-1-700, 31-10-21, 31-10-19, 31-10-28, 31R-10-5, 31-1-141-11, 31-1-141-12, 31-10-3, National Electric Code (NEC); TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/ TO_to_Civilian_Std_X-Reference.xlsx										
34.1. Pole Condition							2b	B	-	-
34.2. Pole Grounding							2b	B	-	-
34.3. Corrosion Prevention							A	A	-	-
34.4. Install Pole							2b	B	-	-
34.5. Pole Attachments							2b	B	-	-
34.6. Guyed Attachments							2b	B	-	-
34.7. Markings							A	A	-	-
34.8. Tower Condition							2b	B	-	-
34.9. Tower Grounding							2b	B	-	-
34.10. Corrosion Prevention							2b	B	-	-
34.11. Tower Attachments							A	A	-	-
34.12. Guyed Attachments							A	A	-	-
34.13. Anchors							A	A	-	-
34.14. Markings							A	A	-	-
34.15. Transmission Lines							2b	B	-	-
34.16. Antenna Testing							2b	B	-	-
34.17. Safety							A	A	-	-
35. CABLE MANAGEMENT TR: T.O. 31-10-19, 31-1-75, 31-10-6, 31-10-13, 31-10-12, 31W3-10-22, 31-10-13, 00-25-245, 31-10-14, 31-10-34, 31-10-7, 31-10-7; ANSI/EIA/TIA 568B, BITSEP Handbook, National Electric Code (NEC); TO to Comm Std X-Reference: https://cs2.eis.af.mil/sites/10445/AFKN_Docs/CFETP/3D1X7%20-%20Cable%20and%20Antenna%20Systems/TO_to_Civilian_Std_X-Reference.xlsx										
35.1. Equipment Location							B	A	-	-
35.2. Racks/Cabinets							B	A	-	-
35.3. Grounding							2b	B	-	-
35.4. Conduit							B	A	-	-
35.5. Marking							B	A	-	-
35.6. Fanning/Forming							2b	B	-	-
35.7. Cable for Fixed Ground C-E Equipment							B	A	-	-
35.8. Terminations							2b	B	-	-
36. WORK CENTER MANAGEMENT TR: AFJQS XXXXX-212S, AFI 10-201, AFI 21- 103, AFI 36-807, Ch 4. and TO 00-33A-1001										
36.1. Management Policies										
36.1.1. Report Resources Status	XC						-	-	A	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
36.1.2. Document Actions	XC						-	-	A	-
36.1.3. Develop Work Schedules	XC						-	-	A	-
36.1.4. Equipment Readiness	XC						-	-	-	-
36.1.5. Staffing and Utilization	XC						-	-	-	-
36.2. Training										
36.2.1. Document Training	XC						-	-	-	-
36.2.2. Evaluate Newly Assigned Personnel and Identify Individual Training Requirements TR: AFI 36-2651; AFI 33-150; Applicable CFETP; Unit Training Manual	XC						-	-	A	-
36.2.3. Conduct On-the- Job Training (OJT) TR: AFI 36-2651; Local Directives	XC						-	A	-	-
36.2.4. Evaluate Quality of OJT and Provide Trainee Feedback: TR: AFI 36-2651	XC						-	-	A	-
36.2.5. Develop Master Training Plan	XC						-	-	A	-
36.2.6. Develop Individual Training Plan in TBA	XC						-	-	-	-
36.2.7. Document Training Progression	XC						-	-	-	-
36.3. Quality Assurance (QA)										
36.3.1. Describe the QA Function	XC						-	A	-	-
36.4. Air Force Inspection System (AFIS) TR: AFI 90-201, MPTO 00-33A-1001-WA-1										
36.4.1. Unit Effectiveness Inspection	XC						-	A	-	-
36.4.2. Self-Assessment Program										
36.4.2.1. Work Center Role	XC						-	A	-	-
36.4.2.2. QA Role	XC						-	A	-	-
36.4.2.3. Self- Assessment Checklist (SACS)	XC						-	A	-	-
36.4.2.4. Management Internal Control Toolset (MICT)	XC						-	A	-	-
36.4.2.5. Perform Self-Assessment	XC						-	-	-	-
36.5. Automated Information Systems (AIS)										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
36.5.1. Integrated Maintenance Data System (IMDS)							-	A	-	-
36.5.2. Remedy							-	A	-	-
36.5.3. Defense Property Accountability System (DPAS)							-	-	-	-
36.5.4. Training Business Area (TBA)							-	A	-	-
36.6. Logistic Support TR: AFI 23-101										
36.6.1. Submit Price Challenges							-	-	-	-
36.6.2. Report Item and Packaging Discrepancies TR: AFJAM 23-215							-	-	-	-
36.6.3. Report Uniform Source, Maintenance and Recoverability Code and Air Force Expendability, Recoverability, Reparability Category Code Discrepancies							-	-	-	-
36.6.4. Submit Deficiency Reports TR: TO 00-35D-54-WA-1, chap 3							-	-	-	-
36.6.5. Research and Identify Part and Stock Numbers							-	-	-	-
36.6.6. Maintain Supply Listings and Reports (D04, D18, M30, D23, or equivalent IMDS)							-	-	-	-
36.6.7. Maintain Bench Stock							-	-	-	-
36.6.8. Maintain Supply Point Stock							-	-	-	-
36.6.9. Request and Validate Adjusted Stock Levels							-	-	-	-
36.6.10. Describe Procedures for Recovering and Turning in Precious Metals							-	-	-	-
36.6.11. Process and Control Repair Cycle Assets Due in For Maintenance (DIFM)							-	-	-	-
36.6.12. Initiate Not Repairable This Station (NRTS) Actions							-	-	-	-
36.6.13. Initiate Contract Repair (AF Form 9)							-	-	-	-
36.6.14. Maintain Custodian Authorization/Custody Receipt Listing (CA/CRL) Equipment Accounts							-	-	-	-
37. FUNCTIONAL MANAGEMENT TR: AFECD; AFIs 33-101, 36-2651, 36-2845, 38-101; AFMAN 37-104 (will convert to AFI 33-396); AFQTP 1D7XX-225E										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
37.1. Career Field Supervision and Leadership										
37.1.1. AF Career Field Manager TR: CFM Handbook	XC						-	A	A	-
37.1.2. MAJCOM Functional Manager TR: MFM Handbook	XC						-	A	A	-
37.1.3. Base Functional Manager	XC						-	A	A	-
37.2. Superintendent Duties										
37.2.1. Roles and Responsibilities of Supervising Gov't, Civ, or Contract Personnel							-	-	-	-
37.2.2. Roles and Responsibilities of each Communications Squadron Work Center							-	-	-	-
37.2.3. Principles of Retraining Programs							-	-	-	-
37.2.4. Plan and Organize Maintenance Activities							-	-	-	-
37.2.5. Direct Systems Analysis, Design, Programming, Operations and Maintenance							-	-	-	-
37.2.6. Direct Systems Management, Technical Support, and Resource Management							-	-	-	-
37.2.7. Manage Plans and Provide Implementation and Development Functions in a Maintenance Environment							-	-	-	-
37.3. Force Management										
37.3.1. Utilization and Training Workshop (U&TW)	XC						-	A	A	-
37.3.2. Occupational Survey	XC						-	A	A	-
37.3.3. Specialty Training Requirements Team (ST)	XC						-	A	A	-
37.4. Awards and Recognition										
37.4.1. Unit/Installation Awards	XC						-	-	A	-
37.4.2. A2/6 Special Trophies and Awards TR: AFI 36-2845	XC						-	-	A	-
38. RESOURCE MANAGEMENT TR: AFPDs 16-5, 33-1, 10-6, 65-6; AFIs 16-501, 10-601, 65-601 V(3)										
38.1. Financial Management										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
38.1.1. Principles of Financial Management							-	-	-	-
38.1.2. Program Objective Memorandum (POM) Cycle							-	-	-	-
38.1.3. Government Purchase Card Program Oversight							-	-	A	-
38.1.4. Shortfall Procedures	XC						-	-	A	-
38.2. Funded Requirements										
38.2.1. Responsibilities							-	-	B	-
38.2.2. Funding Process	XC						-	-	B	-
38.3. Unfunded Requirements										
38.3.1. Responsibilities							-	-	B	-
38.3.2. Funding Process	XC						-	-	B	-
38.3.3. Develop Requirements							-	-	A	-
38.4. Funding Types							-	-	B	-
38.5. Primary and Alternate Funding Sources							-	-	-	-
38.6. Financial Planning (FINPLAN)							-	-	A	-
39. MANPOWER AND ORGANIZATION TR: AFPD 38-2, AFI 38-101, 38-201										
39.1. Manpower Requirements							-	-	A	-
39.2. Air Force Manpower Standard (AFMS) Application							-	-	-	-
39.3. Manpower Studies							-	-	A	-
39.4. Manpower Products										
39.4.1. Unit Manpower Document (UMD)	XC						-	-	A	-
39.4.2. Authorization Change Request (ACR)	XC						-	-	A	-
39.4.3. Organizational Change Request (OCR)	XC						-	-	A	-
39.4.4. Program Element Code (PEC)							-	-	A	-
39.4.5. Unit Personnel Management Roster (UPMR)	XC						-	-	A	-
39.5. Allocating Personnel	XC						-	-	A	-
40. PROJECTS AND REQUIREMENTS FUNCTION TR: T.O. MPTOs 00-33A-1001-WA-1, 00-33D-3003-WA-1										
40.1. IT Requirements TR: AFI 33-401 and 33-210										
40.1.1. Lifecycle							-	-	A	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
40.1.2. Procurement							-	-	A	-
40.1.3. Integrated Technical Reference Model (i-M)							-	-	A	-
40.2. IT/NSS Project Management TR: AFPDs 33-1, 32-90; AFIs, 32-1021, 32-1022, 32-1023, 32-1032, 33-101, 10-501, 32-9005, 65-106; MPTO 00-33A-1001-WA-1, 00-33D-2002-WA-1, 00- 33D-3003-WA-1, 00-33D-3004-WA-1										
40.2.1. Principles of Project Management	XC						-	-	B	-
40.2.2. Complete AF e- Learning 1D7X3C Project Management Training Track TR: https://www.my.af.mil (under AF e-Learning site)	XC						-	-	B	-
40.2.3. Implementing Command/Organization										
40.2.3.1. Project/Program Documentation	XC						-	-	B	-
40.2.3.2. Responsibilities	XC						-	-	B	-
40.2.4. Requiring Organization										
40.2.4.1. Project Documentation Content							-	-	B	-
40.2.4.2. Project Documentation Review							-	-	B	-
40.2.4.3. Site Surveys							-	-	B	-
40.2.5. System Accreditation							-	-	B	-
40.2.6. Support Agreements										
40.2.6.1. Characteristics and Responsibilities Concerning Support Agreements, Memorandums of Agreements and Memorandums of Understanding	XC						-	-	A	-
40.2.6.2. Scheduling Management							-	-	B	-
40.2.6.3. Critical Path							-	-	A	-
40.2.6.4. Project Support Requirements							-	-	B	-
40.2.6.5. Host Nation/Federal/State/Local Requirements/Coordination							-	-	A	-
40.2.6.6. Support Construction										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
40.2.6.6.1. Prepare Base Civil Engineering (BCE) Work Request							-	-	A	-
40.2.6.6.2. Military Construction Program (MCP) TR: EIA/TIA 568A, 569A, 606, 607, ETL 02-12							-	-	B	-
40.2.6.6.3. Construction Design Reviews										
40.2.6.6.3.1. DD Form 1391 Review							-	-	-	-
40.2.6.6.3.2. Review MCP Design Package							-	-	B	-
40.2.6.6.3.3. MCP Design Drawing Symbolism							-	-	-	-
40.2.6.6.3.4. Compliance with ETL 02-12							-	-	-	-
40.2.6.6.3.5. Joint Occupancy							-	-	-	-
40.2.6.6.3.6. Maintenance Work Center Roles							-	-	-	-
40.2.7. Initial Logistic Support Actions							-	-	B	-
40.2.8. Implementation										
40.2.8.1. Liaison with Base Agencies							-	-	B	-
40.2.8.2. Support Documentation							-	-	-	-
40.2.8.3. Project Material							-	-	-	-
40.2.8.4. Integrated Logistics Support Completion							-	-	B	-
40.2.9. Implementation Support										
40.2.9.1. Focal Point for Implementation Teams							-	-	B	-
40.2.9.2. Project Monitor Responsibilities							-	-	B	-
40.2.10. Project Acceptance and Completion Actions										
40.2.10.1. Schedule Systems Acceptance Inspections							-	-	B	-
40.2.10.2. Material Accountability							-	-	B	-
40.2.10.3. Material Disposition							-	-	B	-
40.2.10.4. Real Property Transfer							-	-	B	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
40.2.10.5. Acceptance Documentation							-	-	B	-
40.2.11. Exceptions							-	-	B	-
41. PLANS, PLANNING AND AGREEMENTS TR: AFIs, 33-150, 36-2651, 63-501, 63-131, 64-102; AFPD 36-5, 64-1; Federal Acquisition Regulation (FAR) Part 39; OMB Circular A-130; TO 00-33A- 1001-WA-1 and 00-33D-3003-WA-1										
41.1. IT/National Security System (NSS) Planning TR: AFIs 10-501, 10-601, 16-501, ; AFMAN 10-401 (V) 2; AFPDs 10-4, 16-5, 33-1										
41.1.1. Architecture TR: AFPD 33-1; AFIs 33-108, 33-210, 33-401; AFPD 33-4; CJCSI 6212.01;C4ISRDODAF 4630.8; GIG/CRD; MPTOs 00-33A- 1001-WA-1, 00-33D-2002-										
41.1.1.1. Purpose							-	B	B	-
41.1.1.2. Department of Defense Architecture Framework TR: DoDAF Version 2.02 https://dodcio.defense.gov/Library/DoD-Architecture-Framework/										
41.1.1.2.1. Locate Information within Architecture Views							-	-	-	-
41.1.1.2.2. DOD IT Standards Registry (DISR)							-	-	B	-
41.1.1.2.3. Air Force Communications and Information Info-structure Technical Reference Model (I -M)							-	-	B	-
41.1.2. Cyberspace Systems Integrator (CSI) Concept TR: MPTO 00- 33D-2002							-	-	B	-
41.1.3. Cyberspace Infrastructure Planning System (CIPS) (e.g. Base IT/NSS Blueprints) TR: MPTO 00-33A-1001- WA-1, 00-33D-2002-WA-1, 00-33D-3003-WA-1, 00-33D-3004-WA-1; AFPD 33-1										
41.1.3.1. Purpose							-	-	B	-
41.1.3.2. Process							-	-	B	-
41.1.3.3. Maintain CIPS Visualization Components							-	-	-	-
41.1.3.4. ack Project in CIPS							-	-	-	-
41.1.3.5. CIPS CVC tool							-	-	-	-
41.1.3.6. Legacy CSIRs							-	A	A	-
41.1.4. Lead Command TR: AFI 10-901							-	-	A	-

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
41.1.5. IT/NSS Requirements TR: AFPDs 10-6 and 33-1; AFIs, 10 601; MPTOs 00- 33A-1001-WA-1,00-33D-2002-WA-1, 00-33D-3003-WA-1, 00-33D-3004-WA-1										
41.1.5.1. Purpose							-	-	B	-
41.1.5.2. IT/NSS Documentation TR: AFPD 33-1; AFIs 33-580, 10-601										
41.1.5.2.1. Purpose	XC						-	-	B	-
41.1.5.2.2. Content	XC						-	-	B	-
41.1.5.2.3. Develop IT/NSS Requirement Document							-	-	A	-
41.1.5.2.4. Process IT/NSS Requirements							-	-	B	-
41.1.5.2.5. Risk Identification TR: AFPAM 90-902; OMB Circular No. A-130; MPTO 00-33A-1001-WA-1 http://www.whitehouse.gov/omb/										
41.1.5.2.5.1. Technical Solutions							-	-	B	-
41.1.5.2.5.2. Identify Provisions for Logistic Support							-	-	B	-
41.1.5.2.5.3. Types (ICD, CDDP-Plan, etc)							-	-	B	-
41.1.5.3. IT/NSS Contracts TR: AFPD 33-1										
41.1.5.3.1. Purpose	XC						-	-	B	-
41.1.5.3.2. Content							-	-	B	-
41.1.5.3.3. Validate Technical Solutions Against Applicable Contracts							-	-	B	-
41.1.5.3.4. Commercial Off-the-Shelf (COTS) (GSA, DoD, Contracts, 1218)							-	-	B	-
41.1.5.3.5. Government Off-the-Shelf (GOTS)	XC						-	-	B	-
41.1.5.4. Host Nation Approval TR: Local Procedures							-	-	A	-
41.1.6. Planning Meetings TR: AFPD 33-1; AFI 33-101; T.O. 00-33D-3003-WA-1										
41.1.6.1. Types							-	-	A	-
41.1.6.2. Impacts							-	-	A	-
41.2. Plans Management TR: AFPDs 10-4, 10-5; AFIs 10-402, 10-403, 10-404, 10-501, 25-101, 10-201; MPTO 00-33A-1001-WA-1										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
41.2.1. Types of Plans										
41.2.1.1. Purpose	XC						-	-	B	-
41.2.1.2. Content	XC						-	-	B	-
41.2.1.3. Develop Plans Annex	XC						-	-	B	-
41.2.2. IT/NSS Point of Contact (POC) for Plans										
41.2.2.1. Evaluate Plans to Determine IT/NSS Resource Impact							-	-	B	-
41.2.2.2. Administratively Manage Plans							-	-	B	-
41.3. IT/NSS Installation Records TR: MPTOs 00-33A-1001- WA-1, 00-33D-3003-WA-1, 00-33D-3004-WA-1										
41.3.1. Purpose							-	-	B	-
41.3.2. Content							-	-	B	-
41.3.3. Responsibilities										
41.3.3.1. Base IT/NSS Installation Records Manager							-	-	B	-
41.3.3.2. Work Centers							-	-	B	-
41.3.4. Drawing Records										
41.3.4.1. Processing							-	-	B	-
41.3.4.2. Reviews							-	-	B	-
41.3.4.3. Index							-	-	B	-
41.4. Agreements TR: AFIs 25-201, 33-115 (V) 1, 65-601 (V)1, AFPD 25-2; DODI 4000.19; MPTO 00-33A-1001-WA-1										
41.4.1. Purpose							-	-	A	-
41.4.2. Types							-	-	A	-
41.4.3. Content							-	-	A	-
41.4.4. Reviews							-	-	A	-
41.5. Modification Management										
41.5.1. Control Configuration							-	-	A	-
41.5.2. Initiate Modification Proposals TR: AFI 63-131							-	-	A	-
41.6. Administrative Contract Management TR: Federal Acquisition Regulation (FAR), Part 16										

1. TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	2. CORE & WARTIME TASKS	3. CERTIFICATION FOR OJT					4. PROFICIENCY CODES USED TO INDICATE TRAINING/INFORMATION PROVIDED			
		A	B	C	D	E	3 SKILL LEVEL	5 SKILL LEVEL	7 SKILL LEVEL	9 SKILL LEVEL
		START DATE	STOP DATE	TRAINEE INITIALS	TRAINER INITIALS	CERTIFIER INITIALS	COURSE	COURSE	COURSE	COURSE
41.6.1. Establishing and Managing a Contract	XC						-	-	A	-
41.6.2. Types of Contracts										
41.6.2.1. Time and Material							-	-	A	-
41.6.2.2. Firm Fixed Price							-	-	A	-
41.6.2.3. Sole Source							-	-	A	-
41.6.2.4. Performance Based							-	-	A	-
41.6.2.5. Indefinite Delivery Indefinite Quantity							-	-	A	-
41.6.2.6. Blanket Purchase Agreement (e.g. AFWAY, PCOE)							-	-	A	-
41.6.3. Responsibilities										
41.6.3.1. Quality Assurance Program Coordinator							-	-	A	-
41.6.3.2. Functional Director/Commander							-	-	A	-
41.6.3.3. Quality Assurance Personnel							-	-	A	-
41.6.3.4. Unit Contract Monitor							-	-	A	-
41.7. Base Civil Engineer (BCE) Interface TR: AFIs 32-1001, 32-1021, 32-9002; AFPD 32-90; MPTO 00-33A-1001-WA-1										
41.7.1. Unit Focal Point Responsibilities							-	-	A	-
41.7.2. BCE Work Request Processing							-	-	-	-
41.7.3. BCE Planning							-	-	A	-
41.7.4. Environmental Impacts							-	-	A	-